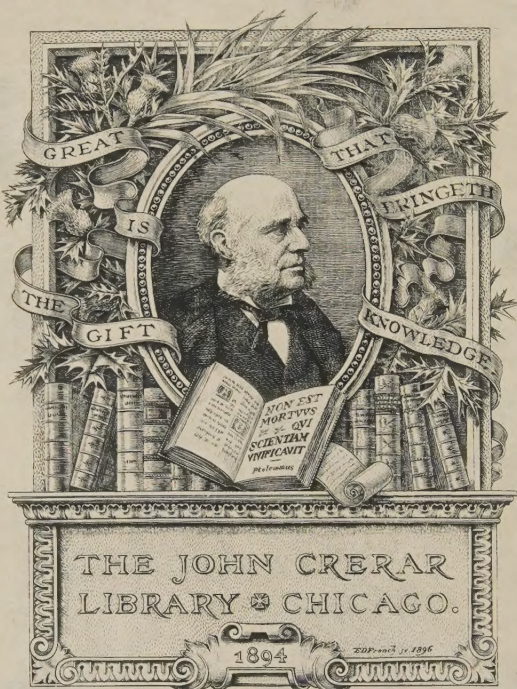






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PRESENTED BY

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Chairman of Committee.



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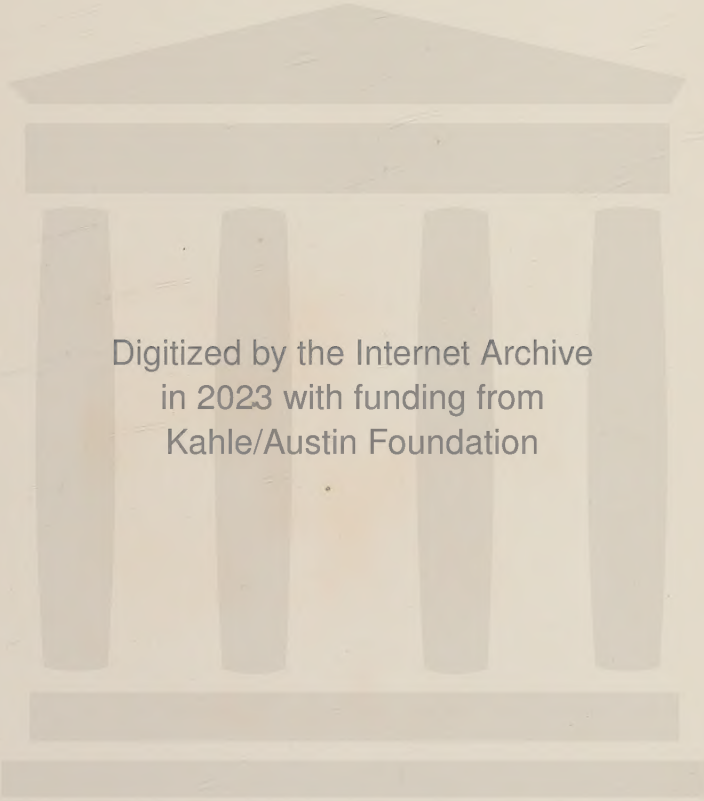
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# UNITED STATES PATENT OFFICE

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## HEARINGS

HELD BEFORE THE

## COMMITTEE ON PATENTS

HOUSE OF REPRESENTATIVES

SIXTY-SIXTH CONGRESS

FIRST SESSION

ON

### H. R. 5011, H. R. 5012, and H. R. 7010

TO ESTABLISH THE PATENT OFFICE AS AN INDEPENDENT BUREAU,  
TO ESTABLISH A UNITED STATES COURT OF PATENT APPEALS,  
AND TO INCREASE THE FORCE AND SALARIES  
IN THE PATENT OFFICE

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#### COMMITTEE ON PATENTS

JOHN I. NOLAN, California, *Chairman*.

FLORIAN LAMPERT, Wisconsin.

LOREN E. WHEELER, Illinois.

ALBERT H. VESTAL, Indiana.

WILLIAM J. BURKE, Pennsylvania.

ALBERT W. JEFFERIS, Nebraska.

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JOHN J. BABKA, Ohio.

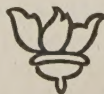
ERWIN L. DAVIS, Tennessee.

JOHN McDUFFIE, Alabama.

T. C. GLYNN, *Clerk*.

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JULY 9, 10, 11, 12, 17, 18, 24, AND 30, 1919



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HEARINGS

# COMMITTEE ON PATENTS

U. S. SENATE, 1890

REPORT OF THE COMMITTEE ON PATENTS  
IN RESPONSE TO A RESOLUTION PASSED BY THE SENATE  
MAY 1, 1889

COMMITTEE ON PATENTS



8



# UNITED STATES PATENT OFFICE.

COMMITTEE ON PATENTS,  
HOUSE OF REPRESENTATIVES,  
*Wednesday, July 9, 1919.*

The committee met at 10.30 o'clock a. m., Hon. John I. Nolan (chairman) presiding.

The CHAIRMAN. Before we proceed with the hearings on the several bills that have been drafted by the patent committee of the National Research Council, I would like to introduce to the members of the Committee on Patents of the House of Representatives Mr. J. A. de Marval, who is representing the Argentine Government in this country, so far as that Government's interest in patents is concerned.

## STATEMENT OF MR. J. A. DE MARVAL, OF BUENOS AIRES, ARGENTINA.

Mr. DE MARVAL. Mr. Chairman and gentlemen of the committee, the Argentine law in regard to patents is very old, indeed, and we have experienced the necessity of improving our patent system and our patent office. In connection with the peace treaty we find that the number of applications that will be handled is going to be increased continuously, and it is necessary to improve our system of granting patents. In that direction we have directed our attention to see where we can get the best advice in regard to changes in our system in order to obtain the necessary improvements, and in doing that it was unanimously agreed that the first place to which we should direct our attention was the United States Patent Office.

It is the American system that we should try to follow in so far as possible, and we should try to obtain our improvements from America, and that means the United States of America.

I want to thank the Commissioner of Patents and other authorities in this country for the very cordial reception which has been given me, and I am positive that as a result of this systematic study a great improvement will accrue to the patent laws and the patent procedure of our country. [Applause.]

The CHAIRMAN. By a formal order of the committee this day was set aside for the beginning of hearings on three bills that were drafted after careful investigation by the patent committee of the National Research Council, affecting the welfare of the Patent Office and patent legislation generally. The bills are H. R. 5011, 5012, and the last bill, which I introduced yesterday, in an amended form, H. R. 7010.

Mr. Prindle, the Secretary of the patent committee of the National Research Council, is here, and I am going to ask him to open the hearing and present the witnesses in the order in which he thinks they ought to testify before the committee.

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**STATEMENT OF MR. EDWIN J. PRINDLE, SECRETARY OF THE  
PATENT COMMITTEE OF THE NATIONAL RESEARCH COUNCIL.**

Mr. PRINDLE. Mr. Chairman and members of the Committee on Patents, for a long time those who have had to do with patents have realized that the patent system was operating at very low efficiency, and that the patents, which are supposed to be a substantial reward to the inventor for his efforts, his time and the expense which he has been required to expend to produce a successful invention did not give a very satisfactory return, both because the patents granted were not of the quality they should be, and because of the difficulties in securing the rights of the inventor under his patent.

In 1917 the Patent Office Society, composed of the Patent Office examiners, realizing this situation, asked the Commissioner of Patents, who was at that time Mr. Thomas Ewing, to ask the National Research Council to appoint a committee to investigate the Patent Office and the patent system and propose changes for their betterment. Mr. Ewing made that request, with the approval of the Secretary of the Interior, and the committee was appointed by the National Research Council.

The reason for asking the National Research Council to undertake this task was that the council is one which is composed of men of very high scientific standing; men having no axes to grind, and men whose recommendations could therefore be relied upon as being made from a statesmanlike and patriotic standpoint.

The patent committee of the National Research Council, as appointed, consisted of Dr. W. F. Durand, professor of mechanical engineering at Leland Stanford University, a very eminent mechanical engineer; Dr. L. H. Baekeland, an eminent inventor, both of these gentlemen being members of the National Research Council; Dr. R. A. Milliken, professor of physics at the University of Chicago, and one of the most eminent investigators in the domain of physics, and also a member of the National Research Council; Dr. S. W. Stratton, Chief of the Bureau of Standards, and also a member of the National Research Council; Dr. M. I. Pupin, professor of electrical engineering at the Columbia University, a member of the National Research Council and an inventor who perhaps did the most to make long-distance telephony possible; Dr. Reid Hunt, professor of medicine at the Harvard University Medical School; Mr. Frederick P. Fish, of Boston, whom, I am sure, the patent profession would agree with me in naming as the dean of the American patent bar; Mr. Thomas Ewing, one of the best Commissioners of Patents whom we have ever had; and myself, a patent lawyer.

After the patent committee of the National Research Council had formulated its report, Mr. C. P. Townsend, a distinguished consulting chemist, was added to the committee. The patent committee held hearings, and after prolonged investigation and consideration formulated a report which was rendered to the National Research Council. This report proposed four improvements in the patent system, which I will merely name at the present moment.

One of those was to establish a single court of patent appeals, having jurisdiction of patent appeals, instead of the nine United States Circuit Courts of Appeals which now have independent and

separate jurisdictions in their respective circuits. Another was to make the Patent Office an independent institution instead of merely one of the bureaus of a department. A third recommendation was to increase the force of the Patent Office, and also their salaries; and a fourth recommendation was to provide for greater ease and certainty of obtaining money compensation for the infringement of a valid patent.

This report was approved by the National Research Council; and I desire to offer a copy of the report, with the letter of transmittal, for insertion in your record.

The CHAIRMAN. Without objection, the report will be inserted in the record.

(The report referred to is as follows:)

LAW OFFICES OF PREINDLE, WRIGHT & SMALL.

*New York, June 4, 1919.*

HON. JOHN I. NOLAN,

*United States Capitol, Washington, D. C.*

MY DEAR MR. NOLAN: In 1917 the Commissioner of Patents, at the request of the Society of Patent Office Examiners and with the approval of the Secretary of the Interior, asked the National Research Council to appoint a committee to investigate the Patent Office and the patent system, for the purpose of making suggestions to improve the efficiency of the Patent Office and the patent system. The National Research Council complied with the request and appointed a committee, which, after careful investigation and due consideration, prepared a report to the National Research Council, accompanied by drafts for three legislative bills.

The legislation proposed by the report provides for (1) a single court of patent appeals; (2) making the Patent Office independent of the Department of the Interior or any other department; (3) an increase in the salaries and force of the Patent Office; (4) increased facility and certainty in recovering compensation for infringement of patents.

The first and third features of the program are treated in separate bills and the second and fourth features are embodied in a single bill, making three bills in all.

The National Research Council adopted the report of its patent committee. The report was approved by the Commissioner of Patents, who afterwards made a reservation, so that his approval would not cover the making of the Patent Office independent of the Interior Department or any other bureau. This reservation was not because the commissioner was opposed to making the Patent Office independent, but because he did not think he ought to take an official stand upon the matter.

The report has been approved by the United Engineering Society, which is composed of the American Society of Civil Engineers, the American Society of Mechanical Engineers, the American Institute of Mining Engineers, and the American Institute of Electrical Engineers; by the American Electrochemical Society, the American Chemical Society, the Chamber of Commerce of the State of New York, and the American Manufacturers' Association.

The patent committee of the National Research Council believes that the patent system has been one of the primal and most tangible reasons why our country has prospered and why its labor has been able to live on a scale much better than that of any portion of Europe. It believes, however, that the patent system has fallen into inefficiency by legislative neglect, and that it is vitally necessary to improve and strengthen the system to the extent indicated in its report in order that the system may be restored and also that it may be strengthened to meet the competition which is surely coming from the efforts of the European countries to stimulate their own inventors.

By authority of the patent committee of the National Research Council and by the urgent wish of the United States Patent Office I respectfully request you to introduce the bill relating to the single court of patent appeals, and the bill providing both for making the Patent Office an independent institution and for increasing the facility and certainty in recovering compensation for infringement of patents. The bill providing for an increase in the salaries and force of the Patent Office is being considered by the National Research



Council, in view of changes which have been proposed in it, and that bill will not be ready for introduction for a few days. I inclose a copy of the report with all the bills attached and extra copies of the two bills which I have asked you to introduce.

If you will be good enough to communicate with me when you are ready for a hearing on the bills, I, as secretary of the committee, will arrange for speakers to address your committee upon them on behalf of our committee.

Very respectfully,

EDWIN J. PRINDLE,  
*Secretary of the Patent Committee of the  
National Research Council.*

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#### REPORT OF THE PATENT COMMITTEE TO THE NATIONAL RESEARCH COUNCIL.

The Commissioner of Patents in 1917, with the approval of the Secretary of the Interior, requested the National Research Council to appoint a committee to investigate the Patent Office and patent system, with a view to increasing their effectiveness, and to consider what might be done to make the Patent Office more of a national institution and more vitally useful to the industrial life of the country.

Mr. Thomas Ewing, who is a member of your patent committee, was the Commissioner of Patents who took that action.

The National Research Council, complying with the request, appointed a patent committee, consisting of Dr. William F. Durand, chairman; Drs. Leo H. Baekeland and M. I. Pupin, scientists and inventors; Drs. R. A. Milliken and S. W. Stratton, scientists; Dr. Reid Hunt, physician; and Messrs. Frederick P. Fish, Thomas Ewing, and Edwin J. Prindle, patent lawyers. On the departure of Dr. Durand for Europe, Dr. Baekeland was appointed acting chairman of the committee.

Your committee has approached its work in the belief that the American patent system has been one of the most potent factors in the development of the prosperity of our country. Americans, being descendants of the European races, are not naturally more inventive than are Europeans, but under the incentive of the American patent system they have produced many more inventions and been able to pay higher wages and live on a better scale than Europeans.

American inventions have played a vital part in the war. There is hardly any implement or explosive that our Army and Navy has used which is not more or less the result of American invention. The Patent Office is keeping secret and withholding from publication many inventions made since the beginning of the war and which are useful in war. After the war it will be imperative that American inventors continuously improve American products and the manufacture of them, and make basically new inventions to meet and keep ahead of the strenuous efforts which Germany and other nations will make to attain supremacy by these methods.

Your committee has, therefore, carefully investigated the Patent Office and the patent system, with a view to increasing their effectiveness, and, based on its investigation and the experience of its members, makes the following recommendations:

The committee has concluded to propose a program consisting of but four features, because it believes those features are of such fundamental importance that their enactment into law would strengthen the entire system and directly and indirectly establish it upon a new and much more advantageous footing before Congress and the public; and because, with a simple program, presenting comparatively little opportunity for difference of opinion as to the desirability of the changes proposed, there would be an unanimity of opinion in support of it which could not be obtained if the program were more extended.

#### A SINGLE COURT OF PATENT APPEALS.

The first proposal which your committee recommends is the establishment of a single court of patent appeals that will have jurisdiction of appeals in patent cases from all the United States district courts throughout the country, in place of the nine independent circuit courts of appeal in which appellate jurisdiction is now vested.

Until 1891 the Supreme Court of the United States was the appellate court in patent cases for all the lower courts. At that time the right of appeal to the Supreme Court in patent cases was taken away, and that court now hears patent cases only upon writs of certiorari, which are never granted unless certain very unusual conditions exist.

The existence of nine appellate courts of concurrent jurisdiction in patent cases works serious hardships. While, theoretically, the law is the same in all these courts, there has been an irresistible tendency to drift apart in the application of the law. It has even happened in a substantial number of cases that two of the appellate courts have taken a different view of one and the same patent. It is, of course, very important that the question which always exists as to the validity and scope of a patent should be settled once and for all at the earliest possible date in the life of the patent, for, as a practical matter, 17 years (the term of a patent) is a comparatively short time in which to reduce the invention to a thoroughly commercial form, to prepare for its manufacture, and to introduce it upon the market, and it is usually necessary to determine the validity and scope of the patent in order to determine the amount of money which it is safe to invest in exploiting the invention. As things are now, whichever party succeeds in the first suit that is tried on the patent, the other party is very likely to feel that in a second trial before another court he might have better luck. He, therefore, is inclined to insist upon a second litigation. Meantime, he advertises that the questions involved were not settled in the first case. This means uncertainty on the part of the owners of the patent as to their rights and uncertainty on the part of the public as to its rights to use the invention or to determine what it must avoid in working in the same field—a really intolerable situation.

Moreover, we shall never have a uniform and definite patent law, consistently applied, until we have a single court of patent appeals independent of local sentiment, realizing a responsibility to fix the principles of the law and enforcing an harmonious application of these principles on the lower courts. It would be of the utmost value to those in the United States who are engaged in industry if the present confused condition could be corrected and a single tribunal devote itself to crystallizing the fundamentals of the patent law and to educating the courts throughout the land to uniformity in applying these principles in special cases.

Attached hereto is a copy of a bill for the establishment of such a court, which has been advocated for many years by the American Bar Association, and is No. 5011 of the House of Representatives, Sixty-fifth Congress, first session. It provides for a court of seven members, which would sit in Washington, with a chief justice appointed for life by the President. The appointment of the chief justice for life is in order that there may be an element of continuity in the court. The other judges are to be selected by the Chief Justice of the United States Supreme Court from the various district and circuit judges throughout the land, and each is to sit on the court of patent appeals for a period of six years, or longer if reappointed.

There are many advantages in this plan. Among them are the following:

The judges would not be men who were appointed as judges primarily to deal with patent matters. There could be no charge that special interests had a hand in their selection or that they were chosen to promote special views as to the patent law and its application. They would be men who had been primarily selected by the President as fit to be Federal judges in the localities where they live. Federal judges are men of a high type, and many of them are broad-minded men, much respected in the communities which they serve. They would take up the work of the court of patent appeals with a breadth coming from the performance of their general duties of judges in their own circuits or districts and would, therefore, escape the narrowing which so often comes from continuous work in a specialized field.

The Chief Justice of the United States Supreme Court would select from the district and circuit judges throughout the land men whom he thought most competent to serve for a term on the court of patent appeals. He would seldom, if ever, take more than one judge at a time from any one circuit. The court, therefore, would be made up of men who were primarily judges and who would be recognized as bringing to the court of patent appeals the instincts and feelings on the subject of the interpretation of the patent law, of the courts and of the people in the communities in which they live.



Undoubtedly, many of them would only be on the appellate court for one term and after that they would go back to their circuits or districts with a training as patent judges such as could only be obtained by sitting for a period of years in such an appellate court. They would not only be qualified as patent judges, but they would reflect the atmosphere of the appellate court and cause that atmosphere to pervade their own neighborhood. They would thereafter undoubtedly be selected to hear patent cases in the lower courts in preference to judges who had not had training in the court of patent appeals. The courts throughout the country would, in time, become educated to the high and definite standards established by the court of patent appeals, not only by study of the decisions of that court, but by the presence in the lower courts of men who had had this special training in the upper court.

It is of the utmost importance that these judges in the court of patent appeals should be well paid. Otherwise they might not be willing to break up their homes and go to Washington for a limited term. We think that their salaries should be higher than those of the judges of any court in the United States except the United States Supreme Court.

The increased expense due to such a court would be small. The aggregate amount of work to be done by the judges of the United States courts as a whole would not be changed to any substantial extent, because all appeals must now be heard by the present courts and judges, and, if there were a single court of patent appeals, the courts of appeal in the nine circuits would be relieved of just as many appeals as were heard by it. The judges in some of the circuits are much overworked, but this is not true of many of the circuits. The Chief Justice of the United States Supreme Court, in selecting these judges could, if he chose, take into account the work of the different circuits, and whether one circuit or another could best spare a judge.

As the law now stands, judges from one circuit may be called upon, and not infrequently are called upon, to go into other circuits which are short-handed. In this way, any undue pressure upon the judges in any particular circuit, by reason of the loss of any single judge who went to the court of patent appeals for six years, could be relieved.

Moreover, it is no hardship to increase the number of judges where necessary. The whole judicial system of the United States is said not to cost as much as it does to run one first-class battleship, and the addition of a few judges would be a negligible burden upon the Treasury.

A further advantage of a single court of patent appeals would be that it would see clearly where there were defects in the statute and in the conditions and practice in the Patent Office, and could speak with authority on all matters which affect the theory and practical working of the patent system.

#### THE PATENT OFFICE A SEPARATE INSTITUTION AND INDEPENDENT OF THE DEPARTMENT OF THE INTERIOR.

The second proposal which your committee recommends is that the Patent Office be made a separate institution, independent of the Interior or any other department.

The Patent Office was originally in the State Department, but, on the formation of the Interior Department in 1849 it was made a bureau of that department and has been so ever since.

The only matters connected with the Patent Office with which the Secretary of the Interior has anything to do are the following: The Secretary of the Interior must submit to Congress all estimates for appropriations. All appointments, excepting those of the commissioner, two assistant commissioners, and five examiners in chief, are made by the Secretary, but only on the recommendation of the commissioner. The eight places named are presidential appointments, but the Secretary makes recommendations to the President. All matters of disbarment or reinstatement after disbarment of attorneys are passed upon finally by the Secretary. All matters of discipline are under the Secretary's jurisdiction. The Secretary of the Interior must approve all changes in the rules of practice of the Patent Office, but he can not compel the commissioner to make any change whatsoever.

No appeal lies to the Secretary from any decisions of the commissioner, either in matters of merit or practice. All such matters, as far as they are reviewable, rest with the courts of the District of Columbia.

The Secretary of the Interior no longer signs the patents and has no jurisdiction to grant or refuse them.

Thus it will be seen that the Secretary of the Interior is not required to know anything about patents or patent law. He is not selected because of any qualifications for the granting of patents or supervision over the Patent Office. The Secretary of the Interior has less influence over the Patent Office than over any other bureau of the Interior Department, because there are appeals to him from all the other bureaus. Nor is the Patent Office related to any other bureau of the Interior Department.

The Secretary of the Interior has recently moved out of the Patent Office Building, thus severing physical contact with the Patent Office, which is but a type of the lack of mental contact between the office of the Secretary of the Interior and the Patent Office.

The experience of many commissioners over a period of several generations has shown that, no matter how pleasant the personal relations may be, the Commissioner of Patents can not expect any real benefit to the Patent Office to flow from its connections with the Interior Department. There is nothing in common between the interests of the Interior Department and those of the Patent Office and, consequently, nothing to produce any advantage from the amalgamation of the Patent Office into the Interior Department.

Your committee believe that to make the Patent Office an independent bureau would greatly increase the respect of the public and Congress and the courts for it and would make it easier to procure enlarged appropriations and better salaries than under present conditions.

As to appropriations, under present conditions the demands of the Patent Office for equipment, personnel, and salaries are necessarily subjected to comparison both by the Secretary of the Interior and by Congress with those of several other unrelated bureaus, each pressing its own demands and criticizing any apparent preference. In the opinion of your committee this operates as a severe handicap. In estimating the needs of the Patent Office there should be no discussion of the demands, for example, of the Pension Office or the General Land Office. As an independent institution, the needs of the Patent Office would be judged on their necessity and the appropriation be determined by consideration of general policy.

As to personnel, the enhanced dignity and independence of the Patent Office would render all positions of importance in it more attractive, and particularly would make it easier to secure and retain in office men of the necessary qualifications to fill the difficult office of commissioner.

A copy of a proposed bill for making the Patent Office an independent bureau is annexed to this report, and its enactment is recommended by your committee.

#### INCREASE IN FORCE AND SALARIES OF THE PATENT OFFICE.

The third proposal which your committee recommends is a substantial increase in the force and salaries of the Patent Office. The patents granted by the United States Patent Office are of less average probable validity than formerly, because the number of applications for patent and the field of search are constantly increasing, while the examining force for many years has been insufficient and has not been increased proportionately. The inducements are so unattractive that 25 per cent of the examining force has resigned within the past three years. Your committee finds that the Patent Office is suffering both from lack of examiners and from inadequate compensation.

The salaries of the Patent Office examiners have been increased only 10 per cent since they were fixed in 1848, when they were approximately the same as those of Members of Congress. At the time the salaries of the examiners in chief were fixed they were the same as those of Federal district judges. During the past 70 years the compensation for technical service in almost all other directions has been increased very largely. Congress, in creating new positions, is willing to pay technical men salaries more nearly approximating the usual compensation of such men in private service, but, having started a position at a given salary, is very loath to increase the salary. A principal examiner, to pass the entrance examination for the Patent Office, must have an education equivalent to that of a college graduate, and yet his salary is so low (\$2,700 a year) that it is practically impossible for him to give his own sons a college education.

Your committee believes that salaries should be paid to the examiners proportionate to those paid for equally high technical work in other departments



created recently—such, for example, as are paid in the Army and Navy and in the office of the Attorney General. The examiners are passing upon questions often involving millions of dollars, and they can not be at their best in this vitally important work unless their salaries are large enough for them to live comfortably and without strain. The chances of making mistakes in the granting of patents are great enough even under the most favorable circumstances, and they should not be increased by compelling the examiners to work for inadequate salaries. The inducements should be such as to present compensation and a career which would attract and hold men of the highest ability. The payment of adequate salaries and the creation of provisions tending to hold out attractive prospects to the examiners would also tend to raise the dignity of the Patent Office and to increase its standing in the estimation of the public and of Congress and the courts, and so would tend to enhance the value to the public of the patent system.

The work of the Patent Office has grown so much more rapidly than has the examining force that the examination to determine whether or not the invention claimed in an application for patent is novel is imperatively restricted to the field of search where it is most likely that the invention will be found. Many patents are granted which would not be granted if the examiner had time to make a thorough search. One of the Assistant Commissioners of Patents is compelled to devote a large amount of his time to speeding the work of the examiners in order to prevent further falling behind in the number of unexamined cases. Money is often invested on the strength of patents, only to find later than the patent is upset in the courts, because the Patent Office search did not go far enough to discover that the invention had already been disclosed in some earlier patent or publication. The granting of a patent with invalid claims or claims which are too broad or which are nebulous is a menace to the art to which it relates, and until such a patent has been adjudicated and its effect judicially determined, it tends to prevent manufacturing and commerce in that art. Such a patent may, in this way, cost the public many millions of dollars besides the cost of establishing its invalidity or its true breadth or meaning by litigation, and the prevention of the granting of such patents by any reasonable increase in the examining force of the Patent Office would, in many cases, be a very large saving. The inducement to inventors and investors in patents is consequently lessened, the standing of patents before the courts and the public is impaired, and the production of inventions discouraged.

Your committee accordingly recommends a substantial increase in the salaries of the Patent Office officials, and in the number and salaries of the examiners, as provided in the draft of a bill for that purpose which is attached hereto.

While your committee believes the Patent Office so fully justifies its existence that it would be an exceedingly profitable investment, even though all expenses were paid from the public income, the Patent Office has always been self-supporting and the increase in salaries and examining force which the committee recommends can easily be entirely taken care of by the Patent Office income, if necessary.

#### COMPENSATION FOR INFRINGEMENT OF PATENTS.

While an injunction can ordinarily be obtained against an infringer in a case where a patent is adjudged valid, except where it would interfere with Government work, a money recovery has not heretofore been generally possible except under most favorable circumstances. In a case where it can not be said that the entire salability of the article depends upon the invention, it has been necessary to show just how much of the price of the article is attributable to the invention, and as it is ordinarily impossible to make such a separation, and as most patent cases are ones in which it can not be said that the whole salability of the article depended upon the invention, it has resulted that recovery of money is seldom obtained in a patent suit.

Recently there have been two or three decisions in which the courts have taken a more liberal attitude, holding in effect that where an invention has been used by an infringer a reasonable royalty may be awarded to the patentee based on a mere estimation or on opinion evidence, even though no exact computation can be made. This is analogous to the attitude of the courts in personal-injury cases and is entirely just and reasonable. While, as stated, there have been two or three decisions to this effect, it may take a generation to induce United States courts generally to adopt this position, if at all, and

the committee therefore proposes that the law be amended to provide, that as damages to the complainant, the court, on due proceedings had, may adjudge and decree to the owner payment of a reasonable royalty or other form of general damages. Such an amendment has been provided in the attached bill amending section 4921, the Revised Statutes of the United States, and reading as follows:

"If proof is not offered or, in the absence of adequate proof of the amount that should be awarded as damages or profits, the court, on due proceedings had, may adjudge and decree to the owner payment of a reasonable royalty or other form of general damages."

This proposed amendment would enable the patentee in all suits where the patent has been found valid and infringed to recover at least a reasonable royalty, and would provide a money recovery in the great majority of patent suits where no recovery would otherwise be possible. The committee believes that the comparative certainty of financial return would answer one of the most common and strongest reproaches against the patent system, namely—that a patent does not ordinarily pay the inventor any money, and it believes that the incentive to invent would accordingly be greatly increased.

There are some cases in which it seems to many who are familiar with such matters as though the courts were inclined to go to the other extreme and award damages out of all proportion. Where a complainant has shown that profits have been made by the use of an article patented as an entirety, the infringer is liable for all the profits unless he can show—and the burden of proof is on him to show—that a portion of them is a result of some other invention used by him. If the infringer can not show what proportion of the profits is due to such other invention, then all his profits must go to the complainant. Any rule by which the entire profits are given to a patentee in the absence of proof that they are all due to the invention of the patent sued upon is unfortunate and sometimes very unjust. The proposed amendment to the statute would permit a court under these circumstances to do substantial justice, even though it could not be mathematically exact. In other words, the amendment to the statute would enable a court to avoid

the little.

#### CONCLUSION.

Your committee, believing that the American Patent System is vitally useful in our system of Government, therefore recommends that the reforms herein discussed be enacted into law. Your committee also recommends that this report be approved by the National Research Council and the committee be continued for the purpose of arousing and coordinating interest in and support for the necessary legislation of various national societies, manufacturing interests, bar associations, and other elements of the public.

Respectfully submitted,

L. H. BAEKELAND, *Acting Chairman.*

WILLIAM F. DURAND, Chairman (absent in France).

M. I. PUPIN.

R. A. MILLIKAN.

S. W. STRATTON (see reservation below).

REID HUNT.

FREDERICK P. FISH (see reservation below).

THOMAS EWING.

EDWIN J. PRINDLE.

Approved, except the separation of the Patent Office from the Interior Department.

JAMES T. NEWTON,  
*Commissioner of Patents.*

#### RESERVATION BY DR. STRATTON.

I agree to the terms of the report with the exception of that portion which refers to the establishment of the Patent Office as a separate Government institution. It is not quite clear in my own mind that this would be the best thing to do, since in general it is best for all Government establishments to be represented in the Cabinet.

S. W. STRATTON.



RESERVATION BY MR. FISH.

I entirely concur in the substance of the conclusions set out in the above report. I think, however, that the words "if proof is not offered, or" in that portion of proposed section 4921, which deals with damages and profits, should be omitted so that the sentence in which those words appear should read:

"In the absence of adequate proof of the amount that should be awarded as damages or profits, the court, on due proceedings had, may adjudge and decree to the owner payment of a reasonable royalty or other form of general damages."

I do not think that a statute should directly or indirectly contemplate a condition in litigation in which "proof is not offered." I believe that the clause which I suggest would accomplish the desired purpose and that the courts in applying the clause would be embarrassed if the phrase "if proof is not offered" were in the statute.

I think also that general damages by way of a reasonable royalty or otherwise should not be awarded unless it appeared that actual damages or actual profits, due to the unlawful use of the invention, could not be determined and that there should not be any language in the statute which implied that no effort be made to determine such actual damages and profits.

FREDERICK P. FISH.

[H. R. 5011, 65th Congress, 1st Session.]

A BILL To establish a United States Court of Patent Appeals, and for other purposes.

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,* That there is hereby created a United States Court of Patent Appeals, which shall consist of seven judges, of whom five shall constitute a quorum, and shall be a court of record with jurisdiction as is hereinafter limited and established. Such court shall prescribe the form and style of its seal and the forms of its writs and other process and procedure as may be conformable to the exercise of its jurisdiction as shall be conferred by law. It shall have the appointment of the marshal of the court, who shall have the same powers and perform the same duties under the regulations of the court as are now provided for the marshal of the Supreme Court of the United States, so far as the same may be applicable. The court shall also appoint a clerk, who shall have the same powers and perform the same duties now possessed and performed by the clerk of the Supreme Court of the United States, so far as the same may be applicable. The salary of the marshal of the court shall be \$3,500 a year, and the salary of the clerk shall be \$5,000 a year, both to be paid monthly in twelve equal payments. The costs and fees now provided by law in the Supreme Court of the United States shall be the costs and fees in the United States Court of Patent Appeals; and the same shall be collected, expended, accounted for, and paid over to the Treasury Department of the United States in the same manner as is provided by law in respect to the costs and fees in the Supreme Court of the United States. The court shall have power to establish all needful rules and regulations for the conduct of its business within its jurisdiction as conferred by law.

SEC. 2. That the President of the United States, by and with the advice and consent of the Senate, shall appoint a chief justice of said United States Court of Patent Appeals, and as vacancies occur shall in like manner appoint others to fill such vacancies from time to time. The acceptance of that office by a circuit or district judge of the United States shall vacate his office as circuit or district judge.

SEC. 3. That upon the taking effect of this act the Chief Justice of the Supreme Court of the United States shall designate from among the circuit and district judges of the United States six judges to sit as associate judges of the United States Court of Patent Appeals, three of them to sit for three years from the first day of the first term thereof, and three of them to sit for six years from the first day thereof, as associate judges of the same court for six years from the first day of the first term thereof. And after that, as the periods expire for which such designations shall have been made, the Chief Justice of the Supreme Court of the United States shall fill the vacancies thus occurring by designation of the same or other judges from among the circuit and district judges of the United States, to sit for periods of six years each. In case of the death, resignation, or disability of any associate

judge of the said court or of his resignation of his seat in said court, the Chief Justice of the Supreme Court shall designate another circuit or district judge of the United States to sit for the unexpired period for which his predecessor has been designated. The designation of a judge to sit as associate judge of the United States Court of Patent Appeals must be with his consent, and his service in that court shall not vacate his office as circuit or district judge, as case may be.

SEC. 4. That a term of the United States Court of Patent Appeals shall be held annually at the city of Washington, beginning on the second Monday of October in each year, and the same may be adjourned from time to time as the court shall order. If at any time for the meeting of the court a quorum of the judges shall not be present, the judges present may adjourn the court and, if necessary, adjourn again from time to time until a quorum appear. If at any sitting of the court the chief justice shall be absent, the associate judge senior in commission as circuit judge, or senior in age in case of commissions of even date, shall preside. If no circuit judge shall be present, the associate judge senior in commission as a judge of a district court of the United States, or senior in age in case of commissions of even date, shall preside. Until it shall be otherwise provided by Congress the sessions of the court shall be held in a building or rooms to be provided by the marshal of the District of Columbia, under the direction and approval of the Attorney General of the United States. The court shall by order authorize its marshal to employ such deputies and assistants for himself and the clerk of the court and such criers, bailiffs, and messengers as the business of the court shall require, and to pay the salaries of such employees at rates of compensation not exceeding those paid for similar services in the Supreme Court of the United States, and to pay all other necessary incidental expenses of the court. The chief justice and each of the associate judges shall be entitled to employ a clerk, whose salary, at a rate not exceeding that allowed to clerks of the Chief Justice and associate justices of the Supreme Court, shall be paid as part of the expenses of the court. The court shall have power, in its discretion, to appoint a reporter and to fix by order his salary or other compensation and direct the form and manner of the official publication of its decisions.

SEC. 5. That the Chief Justice of the United States Court of Patent Appeals shall receive a salary of \$12,000 per year. The circuit judges of the United States, sitting as associate judges of the same court, shall each receive the salary allowed him by law as a circuit judge, and in addition thereto, during the time of his service as associate judge of the United States Court of Patent Appeals, but no longer, such additional sum as will make his entire compensation during that service \$11,500 per annum. The district judges, sitting as associate judges of the United States Court of Patent Appeals, shall each receive a salary allowed to him by law as district judge, and in addition thereto, during the term of his service as associate judge of the United States Court of Patent Appeals, but no longer, such additional sum as will make his entire compensation during that service \$11,500 per annum. All the said salaries shall be payable in twelve equal monthly installments. The time during which any judge shall serve in said court shall be deemed continuous service with that in any other court of the United States, before or after such service within the meaning and intent of section seven hundred and fourteen of the Revised Statutes. The additional compensation received by a circuit or district judge while sitting as associate judge of the United States Court of Patent Appeals shall not be taken into account in determining the amount to be received by him after retirement.

SEC. 6. That the United States Court of Patent Appeals shall have jurisdiction to hear and determine appeals and writs of error from final judgments and decrees in the district courts of the United States in cases arising under the laws of the United States relating to patents for inventions, and from final judgments and decrees in cases arising under the laws of the United States relating to patents for inventions rendered by any other court having jurisdiction under the laws of the United States to hear and decide such cases in the first instance: *Provided, however,* That it shall have no jurisdiction in cases originating in the Court of Claims. All such appeals shall be taken within six months after the entry of the order, judgment, or decree sought to be reviewed. The practice, procedure, and forms to be observed in the taking, hearing, and determination of such appeals and writs of error shall conform to the practice, procedure, and forms observed in like cases in the Supreme Court of the



United States, subject to such rules and regulations as shall be prescribed by the court.

SEC. 7. That whenever, by an interlocutory order or decree in a district court of the United States or other court having jurisdiction under the laws of the United States to hear and decide in the first instance cases arising under the patent laws, in a case in which an appeal may be taken from the final decree of such court to the United States Court of Patent Appeals, an injunction or restraining order shall be granted, or refused, or continued, or vacated, or modified, or retained without modification after motion to modify the same, an appeal may be taken from such order or decree by the party aggrieved to the United States Court of Patent Appeals: *Provided*. That the appeal must be taken within thirty days from the service of notice of entry of such order or decree; and it shall take precedence in the appellate court; and the proceedings in other respects in the court below shall not be stayed unless otherwise ordered by that court, or the United States Court of Patent Appeals, or a judge thereof, during the pendency of such appeal.

SEC. 8. That the chief justice and the associate judges of the United States Court of Patent Appeals shall each exercise the same powers in term and vacation in the allowance of appeals, supersedeas orders, and other matters incidental to the jurisdiction and business of the court as are now exercised by the Chief Justice and Associate Justices of the Supreme Court of the United States in relation to the business and jurisdiction of that court.

SEC. 9. That the decisions of the United States Court of Patent Appeals in all cases within its appellate jurisdiction shall be final, except that it shall be competent for the Supreme Court of the United States to require, by certiorari or otherwise, any such case to be certified to it for its review and determination with the same power and authority in the case as though it had been carried by appeal or writ of error from the trial court directly to the Supreme Court.

SEC. 10. That whenever any case shall have been certified from the United States Court of Patent Appeals to the Supreme Court of the United States, by certiorari or otherwise, it shall be, upon its determination by the Supreme Court, remanded to the district court of the United States or other court in which it originated for further proceedings to be taken in pursuance of such determination. And in every case determined by the United States Court of Patent Appeals upon appeal or writ of error the case shall be remanded to the district court of the United States or other court from whence it came for further proceedings to be taken in pursuance of such determination.

SEC. 11. That all appeals and writs of error in cases in which appellate jurisdiction is by this act conferred upon the United States Court of Patent Appeals which shall have been pending without hearing in the United States circuit courts of appeals or other court of appellate jurisdiction for less than three calendar months prior to the taking effect of this act shall be transferred from such circuit courts of appeals or other courts to the United States Court of Patent Appeals and be heard and determined in that court as though they had been taken there from the trial courts by appeal or writ of error without further payment for certifying the record or any new or additional docket or calendar fee; all other appeals and writs of error in cases in which appellate jurisdiction is by this act conferred upon the United States Court of Patent Appeals which shall be pending in the United States circuit courts of appeals or other courts of appellate jurisdiction at the time of the taking effect of this act shall remain and be heard and determined by the courts in which they may be pending, respectively, as though this act had not been passed.

SEC. 12. That after the taking effect of this act no appeal or writ of error shall be taken from any district court or other court of the United States to any United States circuit court of appeals or other appellate court in any case in which an appeal or writ of error may be taken to the United States Court of Patent Appeals under the provisions of this act.

SEC. 13. That all laws and parts of laws inconsistent with the provisions of this act are hereby repealed.

SEC. 14. That this act shall take effect and be in force on the — day of —, nineteen hundred and —.

A BILL To establish a patent and trade-mark office independent of any other department, and to provide for compensation for infringement of patents in the form of general damages, and for other purposes, and amending sections four hundred and forty, four hundred and forty-one, four hundred and seventy-five, four hundred and seventy-six, four hundred and seventy-nine, four hundred and eighty-one, four hundred and eighty-three, four hundred and eighty-four, four hundred and eighty-six, four hundred and eighty-seven, four hundred and ninety-six, forty-eight hundred and ninety-eight, forty-nine hundred and six, forty-nine hundred and twenty-one, forty-nine hundred and thirty-four, forty-nine hundred and thirty-five, and forty-nine hundred and thirty-six of the Revised Statutes of the United States and to amend the act of January 12, 1895, ch. 23, sec. 73, 28 Stat. L., 619.

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled:*

SEC. 1. That as much of section four hundred and forty of the Revised Statutes as follows the words "In the Patent Office" and refers to said office only be repealed.

SEC. 2. That section four hundred and forty-one of the Revised Statutes be, and the same is hereby, amended to read as follows:

"SEC. 441. The Secretary of the Interior is charged with the supervision of public business relating to the following subjects:

"First. The public lands, including mines.

"Second. The Indians.

"Third. Pensions and bounty lands.

"Fourth. Education.

"Fifth. Government Hospital for the Insane.

"Sixth. Columbia Asylum for the Deaf and Dumb."

SEC. 3. That section four hundred and seventy-five of the Revised Statutes be, and the same is hereby, amended to read as follows:

"SEC. 475. There is hereby created an office known as the Patent and Trade-mark Office, where all records, books, models, drawings, specifications, and other papers and things pertaining to letters patent, trade-marks, prints, and labels be safely kept and preserved. The short title of the office shall be Patent Office. Wherever in existing law there are provisions referring to the Patent Office, these provisions shall remain in full force and effect and shall apply to the Patent and Trade-mark Office hereby created."

SEC. 4. That section four hundred and seventy-six of the Revised Statutes be, and the same is hereby, amended to read as follows:

"SEC. 476. There shall be in the Patent and Trade-mark Office a Commissioner of Patents, one first assistant commissioner, one assistant commissioner, and five examiners in chief, who shall be appointed by the President, by and with the consent of the Senate, and shall hold office during the pleasure of the President. The first assistant commissioner and the assistant commissioner shall perform such duties pertaining to the office of commissioner as may be assigned to them respectively from time to time by the commissioner.

"The commissioner may appoint a private secretary. All other officers, clerks, and employees authorized by law for the office shall be appointed by the commissioner in accordance with existing law. There shall be one chief clerk who shall be qualified to act as a principal examiner, one librarian who shall be qualified to act as an assistant examiner, a disbursing clerk, a financial clerk and such examiners, assistant examiners, clerks, messengers, and other employees of various grades and designations as Congress shall from time to time provide for: *Provided, however,* That among the assistant examiners of patents there shall not be in any grade a smaller number than in a lower grade."

SEC. 5. That section four hundred and seventy-nine of the Revised Statutes be, and the same is hereby amended to read as follows:

"SEC. 479. The Commissioner of Patents before entering upon his duties shall give bond with sureties to the Treasurer of the United States in the sum of ten thousand dollars (\$10,000) conditioned for the faithful discharge of his duties, and shall render to the proper officers of the Treasury a true account of all moneys received and disbursed by virtue of his office. The first assistant and assistant commissioner of patents, the chief clerk, the disbursing clerk, and the financial clerk of the Patent and Trade-mark Office before entering upon their duties shall severally give bond with sureties to the Treasurer of the United States in such amount not exceeding ten thousand dollars (\$10,000) as the Commissioner of Patents may determine, conditioned upon the faithful discharge of their respective duties. The chief clerk, the disbursing clerk, and the financial clerk shall severally render to the commissioner a true account of all moneys received and disbursed by virtue of their offices, the said accounts



to be included by the commissioner in his account to the Treasurer of the United States."

SEC. 6. That section four hundred and eighty-one of the Revised Statutes be, and the same is hereby amended to read as follows:

"SEC. 481. The Commissioner of Patents shall superintend and perform all duties respecting the granting and issuing of patents, and the registration of trade-marks, prints, and labels directed by law, and he shall have charge of all books, papers, records, models, machines, and other things belonging to the Patent and Trade-mark Office. The commissioner shall sign all requisitions for the advance or payment of money out of the Treasury upon estimates or accounts for expenditures upon business assigned by law to his office; subject, however, to adjustment and control by the proper accounting officers of the Department of the Treasury; and shall generally perform all acts heretofore provided by law to be performed by the Secretary of the Interior, or the Commissioner of Patents, or both, with respect to the Patent and Trade-mark Office."

SEC. 7. That section four hundred and eighty-three of the Revised Statutes be, and the same is hereby, amended to read as follows:

"SEC. 483. The Commissioner of Patents may from time to time establish regulations not inconsistent with law for the conduct of proceedings in the Patent and Trade-mark Office."

SEC. 8. That section four hundred and eighty-four of the Revised Statutes be, and the same is hereby amended to read as follows:

"SEC. 484. The Commissioner of Patents shall cause to be classified and arranged and properly stored in suitable cases models, specimens of composition, fabrics, manufactures, works of art and design, which have been deposited in the Patent Office or which shall be deposited in the Patent and Trade-mark Office."

SEC. 9. That section four hundred and eighty-six of the Revised Statutes be, and the same is hereby, amended to read as follows:

"SEC. 486. There shall be purchased for the use of the Patent and Trade-Mark Office a library of such legal, scientific, and technical works and periodicals, both foreign and domestic, as may aid the officers in the discharge of their duties, not exceeding the amount annually appropriated for that purpose."

SEC. 10. That section four hundred and eighty-seven of the Revised Statutes be, and the same is hereby, amended to read as follows:

"SEC. 487. The Commissioner of Patents may prescribe rules and regulations governing the recognition of agents, attorneys, or other persons representing applicants or other parties before his office, and may require of such persons, agents, or attorneys before being recognized as representatives of applicants or other persons that they shall show that they are of good moral character and in good repute, are possessed of the necessary qualifications to enable them to render to applicants or other persons valuable service, and are likewise competent to advise and assist applicants or other persons in the presentation or prosecution of their applications or other business before the office. And the Commissioner may after notice and opportunity for a hearing suspend or exclude, either generally or in any particular case, from further practice before his office, any person, agent, or attorney shown to be incompetent or disreputable or who refuses to comply with the said rules and regulations, or who shall with intent to defraud in any manner, deceive, mislead, or threaten any applicant or prospective applicant, or other person having immediate or prospective business before the office, by word, circular, letter, or by advertising. But the reasons for any such suspension or exclusion shall be duly recorded, and the action of the commissioner may be reviewed upon the petition of the person so refused recognition, by the Supreme Court of the District of Columbia, under such conditions and upon such proceedings had as the court may by its rules determine."

SEC. 11. That the act of January twelfth, eighteen hundred and ninety-five, chapter twenty-three, section seventy-three; Twenty-eighth Statutes at Large, page six hundred and nineteen, as amended, be and the same is hereby amended to read as follows:

"The Commissioner of Patents is authorized to continue the printing of the following:

"First. The patents for inventions and designs issued by the Patent and Trade-Mark Office, including grants, specifications, and drawings, together with copies of the same, and of patents already issued, in such number as may be needed for the business of the office.

"Second. The certificates of trade-marks and labels registered in the Patent and Trade-Mark Office, including descriptions and drawings, together with copies of the same, and of trade-marks and labels heretofore registered, in such numbers as may be needed for the business of the office.

"Third. The Official Gazette of the United States Patent and Trade-Mark Office in numbers sufficient to supply all who shall subscribe therefor at five dollars per annum; also for exchange for other scientific publications desirable for the use of the Patent and Trade-Mark Office; also to supply one copy to each Senator, Representative, and Delegate in Congress; also to supply one copy to eight such public libraries having over one thousand volumes, exclusive of Government publications, as shall be designated by each Senator, Representative, and Delegate in Congress, with one hundred additional copies, together with bimonthly and annual indexes for all the same; of the Official Gazette, the 'usual number' shall not be printed.

"Fourth. The Report of the Commissioner of Patents for the fiscal year, not exceeding five hundred in number, for distribution by him; the Annual Report of the Commissioner of Patents to Congress, without the list of patents, not exceeding one thousand five hundred in number, for distribution by him; and of the Annual Report of the Commissioner of Patents to Congress, with the list of patents, five hundred copies for sale by him, if needed; and in addition thereto the 'usual number' only shall be printed.

"Fifth. Pamphlet copies of the rules of practice, pamphlet copies of the patent laws, and pamphlet copies of the laws and rules relating to trade-marks and labels, and circulars relating to the business of the office, all in such numbers as may be needed for the business of the office. The 'usual number' shall not be printed.

"Sixth. Annual volume of the decisions of the Commissioner of Patents and of the United States courts in patent cases, not exceeding one thousand five hundred in number, of which the 'usual number' shall be printed, and for this purpose a copy of each shall be transmitted to Congress promptly when prepared.

"Seventh. Indexes to patents relating to electricity, and indexes to foreign patents, in such numbers as may be needed for the business of the office. The 'usual number' shall not be printed.

"All printing for the Patent and Trade-Mark Office making use of lithography or photolithography, together with the plates for the same shall be contracted for and performed under the direction of the Commissioner of Patents, under such limitations and conditions as the Joint Committee on Printing may from time to time prescribe, and all other printing for the Patent and Trade-Mark Office shall be done by the Public Printer under such limitations and conditions as the Joint Committee on Printing may from time to time prescribe: *Provided*, That the entire work may be done at the Government Printing Office whenever, in the judgment of the Joint Committee on Printing, the same would be to the interest of the Government."

Sec. 12. That section four hundred and ninety-six of the Revised Statutes be, and the same is hereby, amended to read as follows:

"Sec. 496. All disbursements for the Patent and Trade-Mark Office shall be made by the disbursing clerk thereof or, in his absence and upon the express order of the Commissioner, by the chief clerk."

Sec. 13. That section forty-eight hundred and ninety-eight of the Revised Statutes be, and the same is hereby, amended to read as follows:

"Sec. 4898. Every patent or any interest therein shall be assignable in law by an instrument in writing, and the patentee or his assigns or legal representatives may in like manner grant and convey an exclusive right under his patent to the whole or any specified part of the United States. An assessment, grant, or conveyance shall be void as against any subsequent purchaser or mortgagee for a valuable consideration, without notice, unless it is recorded in the Patent Office within three months from the date thereof or prior to such subsequent purchase or mortgage.

"If any such assignment, grant, or conveyance of any patent shall be acknowledged before any notary public of the several States or Territories or the District of Columbia, or any commissioner of any court of the United States for any District or Territory, or before any secretary or legation or consular officer authorized to administer oaths or perform notarial acts under section seventeen hundred and fifty of the Revised Statutes, the certificate of such acknowledgement, under the hand and official seal of such notary or other



officer, shall be prima facie evidence of the execution of such assignment, grant, or conveyance."

SEC. 14. That section forty-nine hundred and six of the Revised Statutes be, and the same is hereby, amended to read as follows:

"SEC. 4906. The clerk of any court of the United States, for any District or Territory wherein testimony is to be taken for use in any contested case pending in the Patent Office, shall, upon the application of any party thereto, or of his agent or attorney, issue a subpoena for any witness residing or being within such District or Territory, commanding him to appear and testify before any officer in such District or Territory authorized to take depositions and affidavits at any time and place in the subpoena State. But no witness shall be required to attend at any place more than forty miles from the place where the subpoena is served upon him; and the provisions of section eight hundred and sixty-nine of the Revised Statutes relating to the issuance of subpoenas duces tecum shall apply to contested cases in the Patent Office."

SEC. 15. That section forty-nine hundred and twenty-one of the Revised Statutes be, and the same is hereby, amended to read as follows:

"SEC. 4921. The several courts vested with jurisdiction of cases arising under the patent laws shall have power to grant injunctions according to the course and principles of courts of equity, to prevent the violation of any right secured by patent, on such terms as the court may deem reasonable; and upon a decree being rendered in any such case for an infringement, the complainant shall be entitled to recover, in addition to the profits to be accounted for by the defendant, the damages the complainant has sustained thereby; and the court shall assess the same or cause the same to be assessed under its direction. If proof is not offered or, in the absence of adequate proof of the amount that shall be awarded as damages or profits, the court, on due proceedings had, may adjudged and decree to the owner payment of a reasonable royalty or other form of general damages. And the court shall have the same power to increase such damages, in its discretion, as is given to increase the damages found by verdicts in actions in the nature of actions of trespass upon the case; but in any suit or action brought for the infringement of any patent there shall be no recovery of profits or damages for any infringement committed more than six years before the filing of the bill of complaint or the issuing of the writ in such suit or action, and this provision shall apply to existing causes of action. And it shall be the duty of the clerks of such courts within one month after the filing of any action, suit, or proceeding arising under the patent laws, to give notice thereof in writing to the Commissioner of Patents, setting forth in order the names and addresses of the litigants, names of the inventors, and the designating numbers of the patents involved, and it shall be the duty of the Commissioner of Patents on receipt of such notice forthwith to indorse the same upon the file wrapper of the said patent or patents and to incorporate the same as a part of the contents of said file or file wrapper; and for each notice required to be furnished to the Commissioner of Patents in compliance herewith a fee of 50 cents shall be taxed by the clerk as costs of suit."

SEC. 16. That section forty-nine hundred and thirty-four of the Revised Statutes be, and the same is hereby, amended to read as follows:

"SEC. 4934. The following shall be the rates for patent fees:

"On filing each original application for a patent, except in design cases, \$20.

"On issuing each original patent, except in design cases, \$15.

"In design cases: For three years and six months, \$10; for seven years, \$15; for fourteen years, \$30.

"On every application for the reissue of a patent, \$30.

"On filing each disclaimer, \$10.

"On an appeal for the first time from the primary examiners to the examiners in chief, \$10.

"On every appeal from the examiners in chief to the commissioner, \$20.

"For copies of records made by the Patent Office, excluding printed copies, 10 cents per hundred words.

"For each certification, 25 cents.

"For recording every assignment, agreement, power of attorney, or other paper under one patent, application, or invention, of three hundred words or under, \$1; of over three hundred and under one thousand words, \$2; and for each additional thousand words or fraction thereof, \$1; and for each additional patent, application, or invention included in one writing, 25 cents.

"For copies of drawings, the reasonable cost of making them."

SEC. 17. That sections forty-nine hundred and thirty-five and forty-nine hundred and thirty-six of the Revised Statutes be amended to read as follows:

"SEC. 4935. All patent fees shall be paid to the Commissioner of Patents, who shall deposit the same in the Treasury of the United States in such manner as the Secretary of the Treasury shall direct.

"SEC. 4936. The Commissioner of Patents is authorized to pay back any sum or sums of money paid to him by any person by mistake or in excess of the fee required by law.

"And be it further enacted that all unexpended appropriations made for the benefit of the Patent Office and all allotments or apportionments of appropriations made to the Interior Department and intended for the use of the Patent Office, which shall be available at the time when this act takes effect, shall become available at such time for expenditure on and by the Patent and Trade-Mark Office, and shall be treated the same as though said office had been directly named in the laws making such appropriations. And all estimates heretofore submitted to the Congress by the Secretary of the Interior for appropriations for the Patent Office shall be acted upon as though made by the Commissioner for the Patent and Trade-Mark Office."

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A BILL To increase the force and salaries in the Patent Office, and amending Public Act Numbered one hundred and eighty-eight, Sixty-fifth Congress, entitled "An act making appropriations for the legislative, executive, and judicial expenses of the Government for the fiscal year ending June thirtieth, nineteen hundred and nineteen, and for other purposes."

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled*, That Public Act No. 188 of the 65th Congress, entitled, "An act making appropriations for the legislative, executive, and judicial expenses of the Government for the fiscal year ending June thirtieth, nineteen hundred and nineteen, and for other purposes," be amended as follows:

The section relating to the "Department of the Interior" of appropriation for the Patent Office, is hereby stricken out, and immediately following the said section relating to the Department of the Interior, the following is inserted:

"Patent and Trade-Mark Office: Commissioner, \$7,500; first assistant commissioner, \$6,000; assistant commissioner, \$5,000; chief clerk (who shall be qualified to act as principal examiner), \$3,500; seven law examiners at \$3,000 each; examiner of classification, \$3,600; five examiners in chief, at \$5,000 each; two examiners of interferences, at \$3,000 each; examiners of trade-marks and designs, one \$3,000; first assistant, \$2,700; two second assistants at \$2,400 each, two third assistants at \$2,000 each, four assistants at \$1,600 each; examiners, fifty principals at \$3,000 each, one hundred and fifty first assistants at \$2,700 each, one hundred and fifty second assistants at \$2,400 each, one hundred and twenty-five third assistants at \$2,000 each, one hundred and twenty-five fourth assistants at \$1,600 each; financial clerk, who shall give bond in such amount as the Secretary of the Interior may determine, \$2,250; librarian, who shall be qualified to act as an assistant examiner, \$2,000; six chiefs of divisions, at \$2,000 each; three assistant chiefs of divisions, at \$1,800 each; private secretary, to be selected and appointed by the Commissioner, \$1,800; translator of languages, \$1,800; clerks—nine of class four, nine of class three, seventeen of class two, one hundred and thirty-five of class one, ninety-one at \$1,000 each; three skilled draftsmen, at \$1,200 each; four draftsmen, at \$1,000 each; ninety copyists; forty copyists, at \$720 each; three messengers; thirty-three assistant messengers; thirteen laborers, at \$600 each; forty-five examiners' aids, at \$600 each; twenty-four copy pullers, who shall be selected without regard to apportionment, at \$480 each: in all, \$1,887.35.

"For special and temporary services of typewriters certified by the Civil Service Commission, who may be employed in such numbers, at \$2.50 per diem, as may, in the judgment of the Commissioner of Patents, be necessary to keep current the work of furnishing manuscript copies of records, \$7,500.

"For purchase of law, professional, and other reference books and publications and scientific books and expense of transporting publications of patents issued by the Patent Office to foreign Governments, \$10,000.

"For producing copies of weekly issue of patents, designs, and trade-marks; production of copies of drawings and specifications of exhausted patents and other papers, \$140,000.

"For investigating the question of public use or sale of inventions for two years or more prior to filing applications for patents, and such other questions



arising in connection with applications for patents as may be deemed necessary by the Commissioner of Patents, and expense attending defense of suits instituted against the Commissioner of Patents, \$2,500.

"For the share of the United States in the expense of conducting the International Bureau at Berne, Switzerland, \$750."

Mr. PRINDLE. I also offer, Mr. Chairman, a certificate of the secretary of the National Research Council, showing the approval of that council of the report.

The CHAIRMAN. Without objection, that will be inserted in the record.

(The matter referred to is as follows:)

COUNCIL OF NATIONAL DEFENSE,

June 30, 1919.

This is to certify that the following are correct extracts from the minutes of the meeting of the interim committee of the National Research Council held January 6, 1919, and of the meeting of the executive board of the National Research Council held January 14, 1919:

Meeting of interim committee, January 6, 1919:

"The chairman presented the report of the committee on patents for consideration.

"Moved that the report of the committee on patents be approved. Adopted."

Meeting of the executive board January 14, 1919:

"The chairman asked special consideration of the report of the patent committee, which was approved by the interim committee, and it was

"Moved that the necessary funds be set aside for printing the report of the patent committee in full. Adopted."

A. O. LEUSCHNER,

Secretary National Research Council.

I also offer copy of a resolution, which was unanimously adopted by the patent committee of the National Research Council, recommending to the council that the bill to increase the force and salaries of the Patent Office, which was attached to the report of said committee to the said council, be amended to increase the force and salaries stated in said bill, so that the figures recommended are those appearing in H. R. 7010, which resolution I ask to have inserted in the record.

(The resolution referred to is as follows:)

APRIL 23, 1919.

*To the members of the patent committee of the National Research Council:*

By the request of the acting chairman of the patent committee of the National Research Council, Dr. L. H. Baekeland, the following resolution is submitted to the committee for vote by mail:

"Resolved, That the patent committee of the National Research Council recommends to the said council that the bill to increase the force and salaries of the Patent Office, which was attached to the report of the said committee to the said council, be amended as recommended by the Patent Office Society by substituting the following for the first three paragraphs of the said bill:

"Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the following sums be, and the same are hereby, appropriated, out of any money in the Treasury not otherwise appropriated, in full compensation for the service of the fiscal year ending June 30, 1920, for the objects hereinafter expressly named:

"Patent Office (or Patent and Trade-Mark Office): Commissioner, \$7,500; first assistant commissioner, \$6,000; assistant commissioner, \$5,000; chief clerk (who shall be qualified to act as principal examiner), \$4,200; seven law examiners, at \$4,200 each; examiner of classification, \$4,200; five examiners in chief, at \$5,000 each; two examiners of interference, at \$4,200 each; examiner of trade-marks and designs, \$4,000; first assistant examiner of trade-marks and designs, \$3,300; two second assistant examiners of trade-marks and designs, at \$2,700 each; two third assistant examiners of trade-marks and designs, at \$2,200 each; six fourth assistant examiners of trade-marks and designs, at

\$1,800 each; examiners—fifty principals at \$4,000 each, one hundred and fifty first assistants at \$3,300 each, one hundred and fifty second assistants at \$2,700 each, one hundred and twenty-five third assistants at \$2,200 each, one hundred and twenty-five fourth assistants at \$1,800 each; financial clerk, who shall give bond in such amount as the Commissioner of Patents may determine, \$2,500; librarian, who shall be qualified to act as assistant examiner, \$2,700; eight chiefs of nonexamining divisions, at \$2,500 each; eight assistant chiefs of nonexamining divisions, at \$2,100 each; private secretary, to be selected and appointed by the commissioner, \$2,000; translator of languages, \$2,000; assistant translator of languages, \$1,600; clerks—twenty-two of class four, thirty-three of class three, one hundred of class two, one hundred and twenty-five of class one, one hundred at \$1,000 each; skilled draftsmen—one at \$1,800, three at \$1,600 each; three draftsmen at \$1,400 each; forty copyists at \$900 each; three messengers at \$840 each; thirty-three assistant messengers at \$720 each; thirteen laborers at \$660 each; fifty examiner's aids and twenty-four copy pullers, who shall be selected without regard to apportionment, \$600 each; in all, \$2,373,660."

the remaining five paragraphs to be as proposed in the bill of the patent committee.

The members of the committee are requested immediately notify the Secretary of their vote upon the said resolution.

EDWIN J. PRINDLE, *Secretary.*

I also offer a letter from the chairman of the National Research Council to myself, dated June 24, 1919, giving the views of the council on the foregoing resolution, which I ask to have inserted in the record.

(The letter referred to follows:)

COUNCIL OF NATIONAL DEFENSE.

June 24, 1919.

MR. EDWIN J. PRINDLE,  
111 Broadway, New York City.

MY DEAR MR. PRINDLE: Some weeks ago you were kind enough to forward to the National Research Council from the patent committee a resolution recommending that the bill to increase the force and salaries of the Patent Office, which was attached to the report of the patent committee to the National Research Council, be amended so as to provide for increases in the salaries and force of the Patent Office.

Appreciating the splendid work of the patent committee, the executive board of the National Research Council has on several occasions discussed this recommendation, but has not taken definite action until to-day.

In discussion of this problem at the meeting this morning the executive board expressed the view that it could not, as now organized, assume decisions on economic problems not wholly comprised in scientific research. The board considers the question of variation of salaries as an important problem for investigation; but it believes that the research council, as now constituted, is not in a position to offer advice comparable to that which might be given by others who have made more particular study of the economic phases of this problem.

The action of the executive board is not to be construed as a failure to recognize the importance of this problem or of the need for most careful study of this question.

With highest appreciation of the work of the patent committee and of your most praiseworthy following out of your program for realizing the ideas which you have developed, I am,

Very sincerely, yours,

JOHN C. MERRIAM, *Chairman.*

MR. PRINDLE. I also offer, Mr. Chairman, a certificate from the chairman of the engineering council, which is comprised of four great engineering societies—the American Institute of Civil Engineers, the American Society of Mechanical Engineers, the American Institute of Electrical Engineers, and the American Institute of Mining Engineers—quoting a resolution of that council approving the report of the patents committee of the National Research Council.



The CHAIRMAN. Without objection, that will be inserted in the record.

(The matter referred to is as follows:)

ENGINEERING COUNCIL,  
New York, June 19, 1919.

EDWIN J. PRINDLE, Esq.,  
Secretary Patent Committee, National Research Council,  
111 Broadway, New York.

DEAR SIR: At a regular meeting of Engineering Council held on December 19, 1918, at which time a quorum was present, its patents committee presented a report containing the following resolution:

"Resolved, That because of its agreement with the report to the National Research Council by its patents committee, and in the interest of unity, the patents committee of Engineering Council approves of the report as passed by the National Research Council's committee as a desirable preliminary step, and recommends that Engineering Council lend its aid to the carrying out of the proposals contained therein."

It was voted by council that the report be accepted and adopted.

Yours, truly,

J. PARKE CHANNING, *Chairman.*

Mr. PRINDLE. I also offer for your record a certified copy of a resolution of the National Association of Manufacturers, approving the report of the patents committee of the National Research Council.

(The matter referred to is as follows:)

NATIONAL ASSOCIATION OF MANUFACTURERS,  
New York, N. Y., June 2, 1919.

Mr. EDWIN J. PRINDLE,  
111 Broadway, New York, N. Y.

DEAR MR. PRINDLE: I beg to attach herewith a copy of the report of our committee on patents, which was unanimously adopted at our convention held on May 19, 20, and 21, Hotel Waldorf Astoria, New York City.

Yours, very truly,

J. PHILIP BIRD, *Acting Secretary.*

*To whom it may concern:*

I, J. Philip Bird, acting secretary of the National Association of Manufacturers, hereto affix the seal of the National Association of Manufacturers as secretary and affirm that in the report hereto attached and marked (A) is the findings of the committee on patents, which was unanimously adopted at the convention held New York City May 19, 20, and 21, 1919.

J. PHILIP BIRD, *Acting Secretary.*

A.

#### NATIONAL ASSOCIATION OF MANUFACTURERS' REPORT OF COMMITTEE ON PATENTS.

[Presented at the twenty-fourth annual meeting, New York, May, 1919.]

*To the Board of Directors and Members,*

*National Association of Manufacturers:*

"The American patent system has been one of the most potent factors in the development of the prosperity of our country. Americans, being descendants of the European races, are not naturally more inventive than are Europeans, but under the incentive of the American patent system they have produced many more inventions and been able to pay higher wages and live on a better scale than Europeans.

"American inventions have played a vital part in the war. There is hardly any implement or explosive that our Army and Navy has used which is not

more or less the result of American invention. The Patent Office is keeping secret and withholding from publication many inventions made since the beginning of the war and which are useful in war. After the war, it will be imperative that American inventors continuously improve American products and the manufacture of them and make basically new inventions to meet and keep ahead of the strenuous efforts which Germany and other nations will make to attain supremacy by these methods."

The above is an excerpt from the report of the patent committee of the National Research Council. The National Research Council was created by the National Academy of Sciences and has been cooperating during the war with the Council of National Defense and the Signal Corps of the Army. Its activities in the sciences are wide and varied.

In 1917 the Commissioner of Patents requested the National Research Council to appoint a committee to investigate the Patent Office and patent system and consider what might be done to make them more vitally useful to the industrial life of the country. The following committee was appointed: Dr. William F. Durand, chairman; Drs. Leo H. Baekeland and M. I. Pupin, scientists and inventors; Dr. Reid Hunt, physician; and Messrs. Frederick P. Fish, Thomas Ewing, and Edwin J. Prindle, patent lawyers. On the departure of Dr. Durand for Europe, Dr. Baekeland was appointed acting chairman of the committee.

The membership of this committee is sufficient guarantee that the report and its recommendations are worthy of our best consideration. A full copy of the report is attached hereto and your committee asks your indorsement of it.

The report referred to contains four definite recommendations, three of which are in substance what may be termed old standard recommendations and the fourth of which is of more recent origin. The three old standard recommendations have been thrashed out by attorneys and laymen in and out of conferences and association meetings, and repeatedly in one form or another proposed in Congress, but so far the highest form of success has not attended these efforts. The fourth recommendation relates to amending the law to provide that the court may decree the payment of a reasonable royalty to the owner of a patent as general damages in lieu of the present unsettled and difficult practice of attempting in each case to separate and determine the actual profits reaped by the defendant because of the invention. Your committee, while agreeing in substance with the conclusions of the council report on this fourth recommendation, does not believe that this subject has had such consideration generally that it will be accepted by Congress for immediate legislation.

The other three points, on the other hand, have had such wide-spread and lengthy consideration and almost unanimous approval that your committee believes they can, by proper presentation to Congress, be placed upon the statute books at this next session. Therefore, only these three old standard recommendations will be here considered, and these only briefly because they are dwelt upon more in detail in the council report.

#### A SINGLE COURT OF PATENT APPEALS.

We should have a single court to hear all appeals in patent cases that are now heard by the nine circuit courts of appeal. Patents would not then be held valid in one circuit and invalid in another and the law affecting patents would soon become more certain and definite because of the uniform and harmonious application of its principles by a single court acting independently of local sentiment. The plan provides a court of seven members, the Chief Justice being appointed for life by the President to provide an element of continuity, and the other judges being selected by the Chief Justice of the Supreme Court from the various district and circuit judges to sit for six years each. Such men would be well qualified and the Federal courts would in turn be benefited by having their judges with this special training returned to them.

#### THE PATENT OFFICE A SEPARATE INSTITUTION.

Separation of the Patent Office from the Interior Department, with which it functionally and now physically has nothing in common, is a step toward a new Patent Office Building, for which all attempts heretofore have failed in spite of the treasury credit of more than \$7,000,000 earned by the Patent Office. Practically the only control exercised by the Secretary of the Interior over the Patent Office is in the submission to Congress of all estimates for appropriations, which, because of this connection, must be compared with the estimates of other unrelated bureaus such as the Pension Office and the



Land Office. As an independent institution, the needs of the Patent Office would be judged on their own merits and the appropriations determined accordingly.

#### INCREASES IN FORCE AND SALARIES OF THE PATENT OFFICE.

An enlargement of the force of the examining corps is absolutely essential to the proper performance of the prescribed duties of the Patent Office. This increase is needed not merely to take care of the rapidly growing examining and classification work of the office, but to keep up with the present requirements. By administrative order to-day an examiner is required to examine a certain number of applications in a given time in order that the work of the office may not fall hopelessly behind and that a creditable record, in appearance at least, may be made. The result is that patents are being granted on searches that are far from what the office would like them to be. Such patents are a menace to industry and they are costing the public many millions of dollars.

When it is considered that an examiner is valuable only after acquiring an experience of at least two years, and that 25 per cent of the examining force has resigned within the past three years, it will at once be seen that substantial salary increases are imperative if the Patent Office is to survive. The salaries of the examiners have been increased only 10 per cent since 1848. Is it any wonder that they resign? Add to these the further fact that in order to qualify as an examiner one must have had the equivalent of a college education and must pass one of the most difficult and highly technical examinations of the civil service. Then consider that the Patent Office must compete for the services of these highly trained men with the private concerns that are employing so many of them now and with other scientific branches of the Government, both of which are offering much higher salaries and greater inducements for work requiring similar qualifications. Does the principal examiner's salary of \$2,700 a year sound like much of an inducement to remain in the Patent Office? Can he give his son a similar education to fit him for a like position?

The need for a larger force and large salaries to keep that force more stable is a crying one and one that is not and can not be denied.

#### CONCLUSION.

A single court of patent appeals, the Patent Office as a separate institution, and increases in the force and salaries of the Patent Office, substantially as recommended in the patent committee report of the National Research Council, are important and pressing items for legislation by Congress, and your committee asks your full approval of this report, as well as your instruction to co-operate with other associations and committees and with societies and chambers and boards of commerce and other scientific and industrial bodies with a view to getting concerted action back of Congress as well as presenting the matters to Congress direct.

Respectfully submitted.

MILTON TIBBETTS, *Chairman.*  
ARTHUR C. FRASER,  
NATHAN B. WILLIAMS,  
*Committee.*

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#### APPENDIX A.

##### REPORT OF THE PATENT COMMITTEE TO THE NATIONAL RESEARCH COUNCIL.

The Commissioner of Patents in 1917, with the approval of the Secretary of the Interior, requested the National Research Council to appoint a committee to investigate the Patent Office and patent system, with a view to increasing their effectiveness, and to consider what might be done to make the Patent Office more of a national institution and more vitally useful to the industrial life of the country.

Mr. Thomas Ewing, who is a member of your patent committee, was the Commissioner of Patents who took that action.

The National Research Council, complying with the request, appointed a patent committee, consisting of Dr. William F. Durand, chairman; Drs. Leo H. Baekeland and H. I. Pupin, scientists and inventors; Drs. R. A. Millikan and

S. W. Stratton, scientists; Dr. Reid Hunt, physician, and Messrs. Frederick P. Fish, Thomas Ewing, and Edwin J. Prindle, patent lawyers. On the departure of Dr. Durand for Europe, Dr. Baekeland was appointed acting chairman of the committee.

Your committee has approached its work in the belief that the American patent system has been one of the most potent factors in the development of the prosperity of our country. Americans, being descendants of the European races, are not naturally more inventive than are Europeans, but under the incentive of the American patent system they have produced many more inventions and been able to pay higher wages and live on a better scale than Europeans.

American inventions have played a vital part in the war. There is hardly any implement or explosive that our Army and Navy has used which is not more or less the result of American invention. The Patent Office is keeping secret and withholding from publication many inventions made since the beginning of the war and which are useful in war. After the war it will be imperative that American inventors continuously improve American products and the manufacture of them and make basically new inventions to meet and keep ahead of the strenuous efforts which Germany and other nations will make to attain supremacy by these methods.

Your committee has therefore carefully investigated the Patent Office and the patent system, with a view to increasing their effectiveness, and, based on its investigation and the experience of its members, makes the following recommendations:

The committee has concluded to propose a program consisting of but four features, because it believes those features are of such fundamental importance that their enactment into law would strengthen the entire system and directly and indirectly establish it upon a new and much more advantageous footing before Congress and the public; and because with a simple program, presenting comparatively little opportunity for difference of opinion as to the desirability of the changes proposed, there would be an unanimity of opinion in support of it which could not be obtained if the program were more extended.

#### A SINGLE COURT OF PATENT APPEALS.

The first proposal which your committee recommends is the establishment of a single court of patent appeals that will have jurisdiction of appeals in patent cases from all the United States district courts throughout the country in place of the nine independent circuit courts of appeal in which appellate jurisdiction is now vested.

Until 1891 the Supreme Court of the United States was the appellate court in patent cases for all the lower courts. At that time the right of appeal to the Supreme Court in patent cases was taken away, and that court now hears patent cases only upon writs of certiorari, which are never granted unless certain very unusual conditions exist.

The existence of nine appellate courts of concurrent jurisdiction in patent cases works serious hardships. While, theoretically, the law is the same in all these courts, there has been an irresistible tendency to drift apart in the application of the law. It has even happened in a substantial number of cases that two of the appellate courts have taken a different view of one and the same patent. It is, of course, very important that the questions which always exist as to the validity and scope of a patent should be settled once and for all at the earliest possible date in the life of the patent, for, as a practical matter, 17 years (the term of a patent) is a comparatively short time in which to reduce the invention to a thoroughly commercial form, to prepare for its manufacture, and to introduce it upon the market, and it is usually necessary to determine the validity and scope of the patent in order to determine the amount of money which it is safe to invest in exploiting the invention. As things are now, whichever party succeeds in the first suit that is tried on the patent, the other party is very likely to feel that in a second trial before another court he might have better luck. He, therefore, is inclined to insist upon a second litigation. Meantime, he advertises that the questions involved were not settled in the first case. This means uncertainty on the part of the owners of the patent as to their rights and uncertainty on the part of the public as to its rights to use the invention or to determine what it must avoid in working in the same field—a really intolerable situation.



Moreover, we shall never have a uniform and definite patent law, consistently applied, until we have a single court of patent appeals, independent of local sentiment, realizing a responsibility to fix the principles of the law and enforcing an harmonious application of these principles on the lower courts. It would be of the utmost value to those in the United States who are engaged in industry if the present confused condition could be corrected and a single tribunal devote itself to crystallizing the fundamentals of the patent law and to educating the courts throughout the land to uniformity in applying these principles in special cases.

Attached hereto is a copy of a bill for the establishment of such a court, which has been advocated for many years by the American Bar Association, and is No. 5011 of the House of Representatives, Sixty-fifth Congress, first session. It provides for a court of seven members, which would sit in Washington, with a chief justice appointed for life by the President. The appointment of the chief justice for life is in order that there may be an element of continuity in the court. The other judges are to be selected by the Chief Justice of the United States Supreme Court from the various district and circuit judges throughout the land, and each is to sit on the court of patent appeals for a period of six years, or longer, if reappointed.

There are many advantages in this plan. Among them are the following:

The judges would not be men who were appointed as judges primarily to deal with patent matters. There could be no charge that special interests had a hand in their selection or that they were chosen to promote special views as to the patent law and its application. They would be men who had been primarily selected by the President as fit to be Federal judges in the localities where they live. Federal judges are men of a high type, and many of them are broad-minded men, which respected in the communities which they serve. They would take up the work of the court of patent appeals with a breadth coming from the performance of their general duties of judges in their own circuits or districts and would, therefore, escape the narrowing which so often comes from continuous work in a specialized field.

The Chief Justice of United States Supreme Court would select from the district and circuit judges throughout the land men whom he thought most competent to serve for a term of the court of patent appeal. He would seldom, if ever, take more than one judge at a time from any one circuit. The court, therefore, would be made up of men who were primarily judges and who would be recognized as bringing to the court of patent appeals the instincts and feelings, on the subject of the interpretation of the patent law, of the courts and of the people in the communities in which they live.

Undoubtedly many of them would only be on the appellate court for one term and after that they would go back to their circuits or districts with a training as patent judges such as could only be obtained by sitting for a period of years in such an appellant court. They would not only be qualified as patent judges, but they would reflect the atmosphere of the appellate court and cause that atmosphere to pervade their own neighborhood. They would thereafter undoubtedly be selected to hear patent cases in the lower courts in preference to judges who had not had training in the court of patent appeals. The courts throughout the country would, in time, become educated to the high and definite standards established by the court of patent appeals, not only by study of the decisions of that court, but by the presence in the lower courts of men who had had this special training in the upper court.

It is of the utmost importance that these judges in the court of patent appeals should be well paid. Otherwise they might not be willing to break up their homes and move to Washington for a limited term. We think that their salaries should be higher than those of the judges of any court in the United States except the United States Supreme Court.

The increased expense due to such court would be small. The aggregate amount of work to be done by the judges of the United States courts as a whole would not be changed to any substantial extent, because all appeals must now be heard by the present courts and judges, and if there were a single court of patent appeals, the courts of appeals in the nine circuits would be relieved of just as many appeals as were heard by it. The judges in some of the circuits are much overworked, but this is not true of many of the circuits. The Chief Justice of United States Supreme Court, in selecting these judges, could, if he chose, take into account the work of the different circuits and whether one circuit or another could best spare a judge.

As the law now stands, judges from one circuit may be called upon, and not infrequently are called upon, to go into other circuits which are short-

handed. In this way any undue pressure upon the judges in any particular circuit, by reason of the loss of any single judge who went to the Court of Patent Appeals for six years, could be relieved.

Moreover, it is no hardship to increase the number of judges where necessary. The whole judicial system of the United States is said not to cost as much as it does to run one first-class battleship, and the addition of a few judges would be a negligible burden upon the Treasury.

A further advantage of a single Court of Patent Appeals would be that it would see clearly where there were defects in the statute and in the conditions and practice in the Patent Office, and could speak with authority on all matters which affect the theory and practical working of the patent system.

THE PATENT OFFICE A SEPARATE INSTITUTION AND INDEPENDENT OF THE  
DEPARTMENT OF THE INTERIOR.

The second proposal which your committee recommends is that the Patent Office be made a separate institution, independent of the Interior or any other department.

The Patent Office was originally in the State Department, but on the formation of the Interior Department in 1849, it was made a bureau of that department, and has been so ever since.

The only matters connected with the Patent Office with which the Secretary of the Interior has anything to do are the following: The Secretary of the Interior must submit to Congress all estimates for appropriations. All appointments excepting those of the commissioner, two assistant commissioners, and five examiners in chief are made by the Secretary, but only on the recommendation of the commissioner. The eight places named are presidential appointments, but the Secretary makes recommendations to the President. All matters of disbarment or reinstatement after disbarment of attorneys are passed upon finally by the Secretary. All matters of discipline are under the Secretary's jurisdiction. The Secretary of the Interior must approve all changes in the Rules of Practice of the Patent Office, but he can not compel the commissioner to make any change whatsoever.

No appeal lies to the Secretary from any decision of the commissioner, either in matters of merit or practice. All such matters, as far as they are reviewable, rest with the courts of the District of Columbia.

The Secretary of the Interior no longer signs the patents and has no jurisdiction to grant or refuse them.

Thus it will be seen that the Secretary of the Interior is not required to know anything about patents or patent law. He is not selected because of any qualifications for the granting of patents or supervision over the Patent Office. The Secretary of the Interior has less influence over the Patent Office than over any other bureau of the Interior Department, because there are appeals to him from all the other bureaus. Nor is the Patent Office related to any other bureau of the Interior Department.

The Secretary of the Interior has recently moved out of the Patent Office Building, thus severing physical contact with the Patent Office, which is but a type of the lack of mental contact between the office of the Secretary of the Interior and the Patent Office.

The experience of many commissioners over a period of several generations has shown that no matter how pleasant the personal relations may be the Commissioner of Patents can not expect any real benefit to the Patent Office to flow from its connections with the Interior Department. There is nothing in common between the interests of the Interior Department and those of the Patent Office, and consequently nothing to produce any advantage from the amalgamation of the Patent Office into the Interior Department.

Your committee believes that to make the Patent Office an independent bureau would greatly increase the respect of the public and Congress and the courts for it, and would make it easier to procure enlarged appropriations and better salaries than under present conditions.

As to appropriations, under present conditions the demands of the Patent Office, for equipment, personnel, and salaries are necessarily subjected to comparison both by the Secretary of the Interior and by Congress with those of several other unrelated bureaus, each pressing its own demands and criticizing any apparent preference. In the opinion of your committee, this operates as a severe handicap. In estimating the needs of the Patent Office there should be no discussion of the demands, for example, of the Pension Office or the General



Land Office. As an independent institution, the needs of the Patent Office would be judged on their necessity and the appropriations be determined by consideration of general policy.

As to personnel, the enhanced dignity and independence of the Patent Office would render all positions of importance in it more attractive, and particularly would make it easier to secure and retain in office men of the necessary qualifications to fill the difficult office of commissioner.

A copy of a proposed bill for making the Patent Office an independent bureau is annexed to this report, and its enactment is recommended by your committee.

#### INCREASES IN FORCE AND SALARIES OF THE PATENT OFFICE.

The third proposal which your committee recommends is a substantial increase in the force and salaries of the Patent Office. The patents granted by the United States Patent Office are of less average probable validity than formerly, because the number of applications for patent and the field of search are constantly increasing, while the examining force for many years has been insufficiently large and has not been increased proportionately. The inducements are so unattractive that 25 per cent of the examining force has resigned within the past three years. Your committee finds that the Patent Office is suffering both from lack of examiners and from inadequate compensation.

The salaries of the Patent Office examiners have been increased only 10 per cent since they were fixed in 1848, when they were approximately the same as those of Members of Congress. At the time the salaries of the examiner in chief were fixed, they were the same as those of Federal district judges. During the past 70 years the compensation for technical service in almost all other directions has been increased very largely. Congress, in creating new positions, is willing to pay technical men salaries more nearly approximating the usual compensation of such men in private service, but, having started a position at a given salary, is very loath to increase the salary. A principal examiner, to pass the entrance examination for the Patent Office, must himself have an education equivalent to that of a college graduate, and yet his salary is so low (\$2,700 a year) that it is practically impossible for him to give his own sons a college education.

Your committee believes that salaries should be paid to the examiners proportionate to those paid for equally high technical work in other departments created recently; such, for example, as are paid in the Army and Navy and in the office of the Attorney General. The examiners are passing upon questions often involving millions of dollars, and they can not be at their best in this vitally important work unless their salaries are large enough for them to live comfortably and without strain. The chances of making mistakes in the granting of patents are great enough even under the most favorable circumstances, and they should not be increased by compelling the examiners to work for inadequate salaries. The inducements should be such as to present compensation and a career which would attract and hold men of the highest ability. The payment of adequate salaries and the creation of provisions tending to hold out attractive prospects to the examiners would also tend to raise the dignity of the Patent Office and to increase its standing in the estimation of the public and of Congress and the courts, and so would tend to enhance the value to the public of the patent system.

The work of the Patent Office has grown so much more rapidly than has the examining force that the examination to determine whether or not the invention claimed in an application for patent is novel is imperatively restricted to the field of search where it is most likely that the invention would be found. Many patents are granted which would not be granted if the examiner had time to make a thorough search. One of the Assistant Commissioners of Patents is compelled to devote a large amount of his time to speeding the work of the examiners in order to prevent further falling behind in the number of unexamined cases. Money is often invested on the strength of patents, only to find later that the patent is upset in the courts because the Patent Office search did not go far enough to discover that the invention had already been disclosed in some earlier patent or publication. The granting of a patent with invalid claim or claims which are too broad or which are nebulous is a menace to the art to which it relates, and until such a patent has been adjudicated and its effect judicially determined it tends to prevent manufacturing and commerce in that art. Such a patent may in this way cost the public many millions of dollars, besides the cost of establishing its invalidity or its true breadth or

meaning by litigation, and the prevention of the granting of such patents by any reasonable increase in the examining force of the Patent Office would, in many cases, be a very large saving. The inducement to inventors and investors in patents is consequently lessened, the standing of patents before the courts and the public is impaired, and the production of inventions discouraged.

Your committee accordingly recommends a substantial increase in the salaries of the Patent Office officials, and in the number and salaries of the examiners, as provided in the draft of the bill for that purpose which is attached hereto.

While your committee believes the Patent Office so fully justifies its existence that it would be an exceedingly profitable investment, even though all expenses were paid from the public income, the Patent Office has always been self-supporting and the increase in salaries and examining force which the committee recommends can easily be entirely taken care of by the Patent Office income, if necessary.

#### COMPENSATION FOR INFRINGEMENT OF PATENTS.

While an injunction can ordinarily be obtained against an infringer in a case where a patent is adjudged valid, except where it would interfere with Government work, a money recovery has not heretofore been generally possible except under most favorable circumstances. In a case where it can not be said that the entire salability of the article depends upon the invention, it has been necessary to show just how much of the price of the article is attributable to the invention, and as it is ordinarily impossible to make such a separation, and as most patent cases are ones in which it can not be said that the whole salability of the article depended upon the invention, it has resulted that recovery of money is seldom obtained in a patent suit.

Recently there have been two or three decisions in which the courts have taken a more liberal attitude, holding in effect that where an invention has been used by an infringer a reasonable royalty may be awarded to the patentee based on a mere estimation or on opinion evidence, even though no exact computation can be made. This is analogous to the attitude of the courts in personal-injury cases and is entirely just and reasonable. While, as stated, there have been two or three decisions to this effect, it may take a generation to induce United States courts generally to adopt this position, if at all, and the committee therefore proposes that the law be amended to provide that as damages to the complainant the court, on due proceedings had, may adjudge and decree to the owner payment of a reasonable royalty or other form of general damages. Such an amendment has been provided in the attached bill amending section 4921, the Revised Statutes of the United States, and reading as follows:

"If proof is not offered, or, in the absence of adequate proof of the amount that should be awarded as damages or profits, the court, on due proceedings had, may adjudge and decree to the owner payment of a reasonable royalty or other form of general damages."

This proposed amendment would enable the patentee in all suits where the patent has been found valid and infringed to recover at least a reasonable royalty, and would provide a money recovery in the great majority of patent suits where no recovery would otherwise be possible. The committee believes that the comparative certainty of financial return would answer one of the most common and strongest reproaches against the patent system, namely, that a patent does not ordinarily pay the inventor any money, and it believes that the incentive to invent would accordingly be greatly increased.

There are some cases in which it seems to many who are familiar with such matters as though the courts were inclined to go to the other extreme and award damages out of all proportion. Where a complainant has shown that profits have been made by the use of an article patented as an entirety, the infringer is liable for all the profits unless he can show—and the burden of proof is on him to show—that a portion of them is a result of some other invention used by him. If the infringer can not show what proportion of the profits is due to such other invention, then all his profits must go to the complainant. Any rule by which the entire profits are given to a patentee in the absence of proof that they are all due to the invention of the patent sued upon is unfortunate and sometimes very unjust. The proposed amendment to the statute would permit a court under these circumstances to do substantial justice even though it could not be mathematically exact. In other words, the amendment to the statute would enable a court to avoid awarding either too much or too little.

## CONCLUSION.

Your committee, believing that the American patent system is vitally useful in our system of Government, therefore recommends that the reforms herein discussed be enacted into law.

Your committee also recommends that this report be approved by the National Research Council and that the committee be continued for the purpose of arousing and coordinating interest in and support for the necessary legislation of various national societies, manufacturing interests, bar associations, and other elements of the public.

Respectfully submitted.

L. H. BAEKELAND, *Acting Chairman.*

WILLIAM F. DURAND, *Chairman.*

(Absent in France.)

M. I. PUPIN.

R. A. MILLIKAN.

S. W. STRATTON.

(See reservation below.)

REID HUNT.

FREDERICK P. FISH.

(See reservation below.)

THOMAS EWING.

EDWIN J. PRINDLE.

Approved: Except the separation of the Patent Office from the Interior Department.

JAMES T. NEWTON,  
*Commissioner of Patents.*

## RESERVATION BY DR. STRATTON.

I agree to the terms of the report with the exception of that portion which refers to the establishment of the Patent Office as a separate Government institution. It is not quite clear in my own mind that this would be the best thing to do since in general it is best for all Government establishments to be represented in the Cabinet.

S. W. STRATTON.

## RESERVATION BY MR. FISH.

I entirely concur in the substance of the conclusions set out in the above report.

I think, however, that the words "if proof is not offered, or" in that portion of proposed section 4921 which deals with damages and profits, should be omitted so that the sentence in which those words appear should read:

"In the absence of adequate proof of the amount that should be awarded as damages or profits, the court, on due proceeding had, may adjudge and decree to the owner payment of a reasonable royalty or other form of general damages."

I do not think that statute should directly or indirectly contemplate a condition in litigation in which "proof is not offered." I believe that the clause which I suggest would accomplish the desired purpose and that the courts in applying the clause would be embarrassed if the phrase "if proof is not offered" were in the statute.

I think also that general damages by way of a reasonable royalty or otherwise should not be awarded unless it appeared that actual damages or actual profits due to the unlawful use of the invention could not be determined and that there should not be any language in the statute which implied that no effort be made to determine such actual damages and profits.

FREDERICK P. FISH.

## APPENDIX B.

[H. R. 5011, Sixty-fifth Congress, first session.]

A BILL To establish a United States Court of Patent Appeals, and for other purposes.

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,* That there is hereby created a United States Court of Patent Appeals, which shall consist of seven judges,



of whom five shall constitute a quorum, and shall be a court of record with jurisdiction as is hereinafter limited and established. Such court shall prescribe the form and style of its seal and the forms of its writs and other process and procedure as may be conformable to the exercise of its jurisdiction as shall be conferred by law. It shall have the appointment of the marshal of the court, who shall have the same powers and perform the same duties under the regulations of the court as are now provided for the marshal of the Supreme Court of the United States, so far as the same may be applicable. The court shall also appoint a clerk, who shall have the same powers and perform the same duties now possessed and performed by the clerk of the Supreme Court of the United States, so far as the same may be applicable. The salary of the marshal of the court shall be \$3,500 a year, and the salary of the clerk shall be \$5,000 a year, both to be paid monthly in twelve equal payments. The costs and fees now provided by law in the Supreme Court of the United States shall be the costs and fees in the United States Court of Patent Appeals; and the same shall be collected, expended, accounted for, and paid over to the Treasury Department of the United States in the same manner as is provided by law in respect to the costs and fees in the Supreme Court of the United States. The court shall have power to establish all needful rules and regulations for the conduct of its business within its jurisdiction as conferred by law.

SEC. 2. That the President of the United States, by and with the advice and consent of the Senate, shall appoint a chief justice of said United States Court of Patent Appeals, and as vacancies occur shall in like manner appoint others to fill such vacancies from time to time. The acceptance of that office by a circuit or district judge of the United States shall vacate his office as circuit or district judge.

SEC. 3. That upon the taking effect of this act the Chief Justice of the Supreme Court of the United States shall designate from among the circuit and district judges of the United States six judges to sit as associate judges of the United States Court of Patent Appeals, three of them to sit for three years from the first day of the first term thereof, and three of them to sit for six years from the first day thereof, as associate judges of the same court for six years from the first day of the first term thereof. And after that, as the periods expire for which such designations shall have been made, the Chief Justice of the Supreme Court of the United States shall fill the vacancies thus occurring by designation of the same or other judges from among the circuit and district judges of the United States, to sit for periods of six years each. In case of the death, resignation, or disability of any associate judge of the said court or of his resignation of his seat in said court the Chief Justice of the Supreme Court shall designate another circuit or district judge of the United States to sit for the unexpired period for which his predecessor has been designated. The designation of a judge to sit as associate judge of the United States Court of Patent Appeals must be with his consent, and his service in that court shall not vacate his office as circuit or district judge, as the case may be.

SEC. 4. That a term of the United States Court of Patent Appeals shall be held annually at the city of Washington, beginning on the second Monday of October in each year, and the same may be adjourned from time to time as the court shall order. If at any time for the meeting of the court a quorum of the judges shall not be present, the judges present may adjourn the court and, if necessary, adjourn again from time to time until a quorum appear. If at any sitting of the court the chief justice shall be absent, the associate judge senior in commission as circuit judge, or senior in age in case of commissions of even date, shall preside. If no circuit judge shall be present, the associate judge senior in commission as a judge of a district court of the United States, or senior in age in case of commissions of even date, shall preside. Until it shall be otherwise provided by Congress the sessions of the court shall be held in a building or rooms to be provided by the marshal of the District of Columbia, under the direction and approval of the Attorney General of the United States. The court shall by order authorize its marshal to employ such deputies and assistants for himself and the clerk of the court and such criers, bailiffs, and messengers as the business of the court shall require, and to pay the salaries of such employees at rates of compensation not exceeding those paid for similar services in the Supreme Court of the United States, and to pay all other necessary incidental expenses of the court. The

chief justice and each of the associate judges, shall be entitled to employ a clerk, whose salary, at a rate not exceeding that allowed the clerks of the Chief Justice and Associate Justice of the Supreme Court, shall be paid as part of the expenses of the court. The court shall have power, in its discretion, to appoint a reporter and to fix by order his salary or other compensation and direct the form and manner of the official publication of its decisions.

SEC. 5. That the chief justice of the United States Court of Patent Appeals shall receive a salary of \$12,000 per year. The circuit judges of the United States sitting as associate judges of the same court shall each receive the salary allowed him by law as a circuit judge, and in addition thereto during the time of his service as associate judge of the United States Court of Patent Appeals, but not longer, such additional sum as will make his entire compensation during that service \$11,500 per annum. The district judges sitting as associate judges of the United States Court of Patent Appeals shall each receive a salary allowed to him by law as district judge, and, in addition thereto, during the term of his service as associate judge of the United States Court of Patent Appeals, but no longer, such additional sum as will make his entire compensation during that service \$11,500 per annum. All the said salaries shall be payable in twelve equal monthly installments. The time during which any judge shall serve in said court shall be deemed continuous service with that in any other court of the United States, before or after such service within the meaning and intent of section seven hundred and fourteen of the Revised Statutes. The additional compensation received by a circuit or district judge while sitting as associate judge of the United States Court of Patent Appeals shall not be taken into account in determining the amount to be received by him after retirement.

SEC. 6. That the United States Court of Patent Appeals shall have jurisdiction to hear and determine appeals and writs of error from final judgments and decrees in the district courts of the United States in cases arising under the laws of the United States relating to patents for inventions, and from final judgments and decrees in cases arising under the laws of the United States relating to patents for inventions rendered by any other court having jurisdiction under the laws of the United States to hear and decide such cases in the first instance: *Provided, however,* That it shall have no jurisdiction in cases originating in the Court of Claims. All such appeals shall be taken within six months after the entry of the order, judgment, or decree sought to be reviewed. The practice, procedure, and forms to be observed in the taking, hearing, and determination of such appeals and writs of error shall conform to the practice, procedure, and forms observed in like cases in the Supreme Court of the United States, subject to such rules and regulations as shall be prescribed by the court.

SEC. 7. That whenever, by an interlocutory order or decree in a district court of the United States or other court having jurisdiction under the laws of the United States to hear and decide in the first instance cases arising under the patent laws, in a case in which an appeal may be taken from the final decree of such court to the United States Court of Patent Appeals, an injunction or restraining order shall be granted, or refused, or continued, or vacated, or modified, or retained without modification after motion to modify the same, an appeal may be taken from such order or decree by the party aggrieved to the United States Court of Patent Appeals: *Provided,* That the appeal must be taken within thirty days from the service of notice of entry of such order or decree; and it shall take precedence in the appellate court; and the proceedings in other respects in the court below shall not be stayed unless otherwise ordered by that court, or the United States Court of Patent Appeals, or a judge thereof, during the pendency of such appeal.

SEC. 8. That the chief justice and the associate judges of the United States Court of Patent Appeals shall each exercise the same powers in term and vacation in the allowance of appeals, *supersedeas* orders, and other matters incidental to the jurisdiction and business of the court as are now exercised by the Chief Justice and associate justices of the Supreme Court of the United States in relation to the business and jurisdiction of that court.

SEC. 9. That the decisions of the United States Court of Patent Appeals in all cases within its appellate jurisdiction shall be final, except that it shall be competent for the Supreme Court of the United States to require by *certiorari* or otherwise, any such case to be certified to it for its review and determination

with the same power and authority in the case as though it had been carried by appeal or writ of error from the trial court directly to the Supreme Court.

SEC. 10. That whenever any case shall have been certified from the United States Court of Patent Appeals to the Supreme Court of the United States, by *certiorari* or otherwise, it shall be, upon its determination by the Supreme Court, remanded to the district court of the United States or other court in which it originated for further proceedings to be taken in pursuance of such determination. And in every case determined by the United States Court of Patent Appeals upon appeal or writ of error, the case shall be remanded to the district court of the United States or other court from whence it came, for further proceedings to be taken in pursuance of such determination.

SEC. 11. That all appeals and writs of error in cases in which appellate jurisdiction is by this act conferred upon the United States Court of Patent Appeals which shall have been pending without hearing in the United States circuit court of appeals or other court of appellate jurisdiction for less than three calendar months prior to the taking effect of this act shall be transferred from such circuit courts of appeals or other courts to the United States Court of Patent Appeals and be heard and determined in that court as though they had been taken there from the trial courts by appeal or writ of error without further payment for certifying the record or any new or additional docket or calendar fee; all other appeals and writs of error in cases in which appellate jurisdiction is by this act conferred upon the United States Court of Patent Appeals which shall be pending in the United States circuit courts of appeals or other courts of appellate jurisdiction at the time of the taking effect of this act shall remain and be heard and determined by the courts in which they may be pending, respectively, as though this act had not been passed.

SEC. 12. That after the taking effect of this act no appeal or writ of error shall be taken from any district court or other court of the United States to any United States circuit court of appeals or other appellate court in any case in which an appeal or writ of error may be taken to the United States Court of Patent Appeals under the provisions of this act.

SEC. 13. That all laws and parts of laws inconsistent with the provisions of this act are hereby repealed.

SEC. 14. That this act shall take effect and be in force on the—— day of ——, nineteen hundred and ——.

A BILL To establish a patent and trade-mark office independent of any other department and to provide for compensation for infringement of patents in the form of general damages, and for other purposes, and amending sections 440, 441, 475, 476, 479, 481, 483, 484, 486, 487, 496, 4898, 4906, 4921, 4934, 4935, and 4936 of the Revised Statutes of the United States and to amend the act of January 12, 1895, chapter 23, section 73; 28 Stat. L. 619.

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,* That as much of section 440 of the Revised Statutes as follows the words "In the Patent Office" and refers to said office only be repealed.

SEC. 2. That section 441 of the Revised Statutes be, and the same is hereby, amended to read as follows:

"SEC. 441. The Secretary of the Interior is charged with the supervision of public business relating to the following subjects:

"First. The public lands, including mines.

"Second. The Indians.

"Third. Pensions and bounty lands.

"Fourth. Education.

"Fifth. Government Hospital for the Insane.

"Sixth. Columbia Asylum for the Deaf and Dumb."

SEC. 3. That section 475 of the Revised Statutes be, and the same is hereby, amended to read as follows:

"SEC. 475. There is hereby created an office known as the Patent and Trade-mark Office, where all records, books, models, drawings, specifications, and other papers and things pertaining to letters patent, trade-marks, prints, and labels shall be safely kept and preserved. The short title of the office shall be Patent Office. Wherever in existing law there are provisions referring to the Patent Office these provisions shall remain in full force and effect and shall apply to the Patent and Trade-mark Office hereby created."



SEC. 4. That section 476 of the Revised Statutes be, and the same is hereby, amended to read as follows:

"SEC. 476. There shall be in the Patent and Trade-mark Office a Commissioner of Patents, one first assistant commissioner, one assistant commissioner, and five examiners-in-chief, who shall be appointed by the President, by and with the consent of the Senate, and shall hold office during the pleasure of the President. The first assistant commissioner and the assistant commissioner shall perform such duties pertaining to the office of commissioner as may be assigned to them respectively from time to time by the commissioner.

"The commissioner may appoint a private secretary. All other officers, clerks, and employees authorized by law for the office shall be appointed by the commissioner in accordance with existing law. There shall be one chief clerk, who shall be qualified to act as a principal examiner; one librarian, who shall be qualified to act as assistant examiner; a disbursing clerk, a financial clerk, and such examiners, assistant examiners, clerks, messengers, and other employees of various grades and designations as Congress shall from time to time provide for: *Provided, however,* That among the assistant examiners of patent there shall not be in any grade a smaller number than in a lower grade."

SEC. 5. That section 479 of the Revised Statutes be, and the same is hereby, amended to read as follows:

"SEC. 479. The Commissioner of Patents before entering upon his duties shall give bond, with sureties, to the Treasurer of the United States in the sum of \$10,000, conditioned for the faithful discharge of his duties, and shall render to the proper officers of the Treasury a true account of all moneys received and disbursed by virtue of his office. The first assistant and assistant commissioner of patents, the chief clerk, the disbursing clerk, and the financial clerk of the Patent and Trade-mark Office before entering upon their duties shall severally give bond, with sureties, to the Treasurer of the United States in such amount not exceeding \$10,000 as the Commissioner of Patents may determine, conditioned upon the faithful discharge of their respective duties. The chief clerk, the disbursing clerk, and the financial clerk shall severally render to the commissioner a true account of all moneys received and disbursed by virtue of their offices, the said accounts to be included by the commissioner in his account to the Treasurer of the United States."

SEC. 6. That section 481 of the Revised Statutes be, and the same is hereby, amended to read as follows:

"SEC. 481. The Commissioner of Patents shall superintend and perform all duties respecting the granting and issuing of patents and the registration of trade-marks, prints, and labels directed by law, and he shall have charge of all books, papers, records, models, machines, and other things belonging to the Patent and Trade-mark Office. The commissioner shall sign all requisitions for the advance or payment of money out of the Treasury upon estimates or accounts for expenditures upon business assigned by law to his office, subject, however, to adjustment and control by the proper accounting officers of the Department of the Treasury; and shall generally perform all acts heretofore provided by law to be performed by the Secretary of the Interior or the Commissioner of Patents, or both, with respect to the Patent and Trade-mark Office."

SEC. 7. That section 483 of the Revised Statutes be, and the same is hereby, amended to read as follows:

"SEC. 483. The Commissioner of Patents may from time to time establish regulations not inconsistent with law for the conduct of proceedings in the Patent and Trade-mark Office."

SEC. 8. That section 484 of the Revised Statutes be, and the same is hereby, amended to read as follows:

"SEC. 484. The Commissioner of Patents shall cause to be classified and arranged and properly stored in suitable cases, models, specimens of composition, fabrics, manufactures, works of art and design which have been deposited in the Patent Office or which shall be deposited in the Patent and Trade-mark Office."

SEC. 9. That section 486 of the Revised Statutes be, and the same is hereby, amended to read as follows:

"SEC. 486. There shall be purchased for the use of the Patent and Trade-mark Office a library of such legal, scientific, and technical works and periodi-

cals, both foreign and domestic, as may aid the officers in the discharge of their duties, not exceeding the amount annually appropriated for that purpose."

Sec. 10. That section 487 of the Revised Statutes be, and the same is hereby, amended to read as follows:

"SEC. 487. The Commissioner of Patents may prescribe rules and regulations governing the recognition of agents, attorneys, or other persons representing applicants or other parties before his office, and may require of such persons, agents, or attorneys before being recognized as representatives of applicants or other persons that they shall show that they are of good moral character and in good repute, are possessed of the necessary qualifications to enable them to render to applicants or other persons valuable service, and are likewise competent to advise and assist applicants or other persons in the presentation or prosecution of their applications or other business before the office. And the commissioner may, after notice and opportunity for a hearing, suspend or exclude, either generally or in any particular case, from further practice before his office any person, agent, or attorney shown to be incompetent or disreputable, or who refuses to comply with the said rules and regulations, or who shall, with intent to defraud, in any manner deceive, mislead, or threaten any applicant or prospective applicant or other person having immediate or prospective business before the office by word, circular letter, or by advertising. But the reasons for any such suspension or exclusion shall be duly recorded, and the action of the commissioner may be reviewed upon the petition of the person so refused recognition by the Supreme Court of the District of Columbia, under such conditions and upon such proceedings had as the court may by its rules determine."

Sec. 11. That the act of January 12, 1895, chapter 23, section 73, Twenty-eighth Statutes at Large, 619, as amended be, and the same is hereby, amended to read as follows:

"The Commissioner of Patents is authorized to continue the printing of the following:

"First. The patents for inventions and designs issued by the Patent and Trade-mark Office, including grants, specifications, and drawings, together with copies of the same, and of patents already issued, in such number as may be needed for the business of the office.

"Second. The certificates of trade-marks and labels registered in the Patent and Trade-mark Office, including description and drawings, together with copies of the same, and of trade-marks and labels heretofore registered, in such numbers as may be needed for the business of the office.

"Third. The official Gazette of the United States Patent and Trade-mark Office in numbers sufficient to supply all who shall subscribe therefor at \$5 per annum; also for exchange for other scientific publications desirable for the use of the Patent and Trade-mark Office; also to supply one copy to each Senator, Representative, and Delegate in Congress; also to supply one copy to eight such public libraries having over 1,000 volumes, exclusive of Government publications, as shall be designated by each Senator, Representative, and Delegate in Congress, with 100 additional copies, together with by-monthly and annual indexes for all the same; of the Official Gazette the 'usual number' shall not be printed.

"Fourth. The report of the Commissioner of Patents for the fiscal year, not exceeding 500 in number, for distribution by him; the annual report of the Commissioner of Patents to Congress, without the list of patents, not exceeding 1,500 in number, for distribution by him; and of the annual report of the Commissioner of Patents to Congress, with the list of patents, 500 copies for sale by him, if needed, and in addition thereto the 'usual number' only shall be printed.

"Fifth. Pamphlet copies of the Rules of Practice, pamphlet copies of the patent laws, and pamphlet copies of the laws and rules relating to trade-marks and labels, and circulars relating to the business of the office, all in such numbers as may be needed for the business of the office. The 'usual number' shall not be printed.

"Sixth. Annual volume of the decision of the Commissioner of Patents and of the United States courts in patent cases, not exceeding 1,500 in number, of which the 'usual number' shall be printed, and for this purpose a copy of each shall be transmitted to Congress promptly when prepared.

"Seventh. Indexes to patents relating to electricity, and indexes to foreign patents, in such numbers as may be needed for the business of the office. The 'usual number' shall not be printed.

"All printing for the Patent and Trade-mark Office making use of lithography or photolithography, together with the plates for the same, shall be contracted for and performed under the direction of the Commissioner of Patents, under such limitations and conditions as the Joint Committee on Printing may from time to time prescribe, and all other printing for the Patent and Trade-mark Office shall be done by the Public Printer under such limitations and conditions as the Joint Committee on Printing may from time to time prescribe: *Provided*, That the entire work may be done at the Government Printing Office whenever in the judgment of the Joint Committee on Printing the same would be to the interest of the Government."

SEC. 12. That section 496 of the Revised Statutes be, and the same are hereby, amended to read as follows:

"SEC. 496. All disbursements for the Patent and Trade-mark Office shall be made by the disbursing clerk thereof or in his absence and upon the express order of the commissioner by the chief clerk."

SEC. 13. That section 4898 of the Revised Statutes be, and the same is hereby, amended to read as follows:

"SEC. 4898. Every patent or any interest therein shall be assignable in law by an instrument in writing, and the patentee or his assigns or legal representatives may in like manner grant and convey an exclusive right under his patent to the whole or any specified part of the United States. An assignment, grant, or conveyance shall be void as against any subsequent purchaser or mortgagee for a valuable consideration without notice unless it is recorded in the Patent Office within three months from the date thereof or prior to such subsequent purchase or mortgage.

"If any such assignment, grant, or conveyance of any patent shall be acknowledged before any notary public of the several States or Territories or the District of Columbia, or any commissioner of any court of the United States for any District or Territory, or before any secretary or legation or consular officer authorized to administer oaths or perform notarial acts under section 1750 of the Revised Statutes, the certificate of such acknowledgment, under the hand and official seal of such notary or other officer, shall be prima facie evidence of the execution of such assignment, grant, or conveyance."

SEC. 14. That section 4906 of the Revised Statutes be, and the same is hereby, amended to read as follows:

"SEC. 4906. The clerk of any court of the United States for any District or Territory wherein testimony is to be taken for use in any contested case pending in the Patent Office shall, upon the application of any party thereto, or if his agent or attorney issue a subpoena for any witness residing or being within such District or Territory commanding him to appear and testify before any officer in such District or Territory authorized to take depositions and affidavits at any time and place in the subpoena State. But no witness shall be required to attend at any place more than 40 miles from the place where the subpoena is served upon him; and the provisions of section 869 of the Revised Statutes relating to the issuance of subpoenas duces tecum shall apply to contested cases in the Patent Office."

SEC. 15. That section 4921 of the Revised Statutes be, and the same is hereby, amended to read as follows:

"SEC. 4921. The several courts vested with jurisdiction of cases arising under the patent laws shall have power to grant injunctions according to the course and principles of courts of equity, to prevent the violation of any right secured by patent, on such terms as the court may deem reasonable; and upon a decree being rendered in any such case for an infringement, the complainant shall be entitled to recover, in addition to the profits to be accounted for by the defendant, the damages the complainant has sustained thereby; and the court shall assess the same or cause the same to be assessed under its direction. If proof is not offered or, in the absence of adequate proof of the amount that shall be awarded as damages or profits, the court, on due proceedings had, may adjudge and decree to the owner payment of a reasonable royalty or other form of general damages. And the court shall have the same power to increase such damages, in its discretion, as is given to increase the damages found by verdicts in actions in the nature of actions of trespass upon the case; but in any suit or action brought for the infringement of any patent there shall be no recovery of profits or damages for any infringement committed more than six years before the filing of the bill of complaint or the issuing of the writ in such suit



or action, and this provision shall apply to existing causes of action. And it shall be the duty of the clerks of such courts within one month after the filing of any action, suit, or proceeding arising under the patent laws to give notice thereof in writing to the Commissioner of Patents, setting forth in order the names and addresses of the litigants, names of the inventors, and the designating numbers of the patents involved, and it shall be the duty of the Commissioner of Patents on receipt of such notice forthwith to indorse the same upon the file wrapper of the said patent or patents and to incorporate the same as a part of the contents of said file or file wrapper; and for each notice required to be furnished to the Commissioner of Patents in compliance herewith a fee of 50 cents shall be taxed by the clerk as costs of suit."

SEC. 16. That section forty-nine hundred and thirty-four of the Revised Statutes be, and the same is hereby, amended to read as follows:

"SEC. 4934. The following shall be the rates for patent fees:

"On filing each original application for a patent, except in design cases, \$20.

"On issuing each original patent, except in design cases, \$15.

"In design cases: For three years and six months, \$10; for seven years, \$15; for fourteen years, \$30.

"On every application for the reissue of a patent, \$30.

"On filing each disclaimer, \$10.

"On an appeal for the first time from the primary examiners to the examiners in chief, \$10.

"On every appeal from the examiners in chief to the commissioner, \$20.

"For copies of records made by the Patent Office, excluding printed copies, 10 cents per hundred words.

"For each certification, 25 cents.

"For recording every assignment, agreement, power of attorney, or other paper under one patent, application, or invention, of three hundred words or under, \$1; of over three hundred and under one thousand words, \$2; and for each additional thousand words or fraction thereof, \$1; and for each additional patent, application, or invention included in one writing, 25 cents.

"For copies of drawings, the reasonable cost of making them."

SEC. 17. That sections forty-nine hundred and thirty-five and forty-nine hundred and thirty-six of the Revised Statutes be amended to read as follows:

"SEC. 4935. All patent fees shall be paid to the Commissioner of Patents, who shall deposit the same in the Treasury of the United States in such manner as the Secretary of the Treasury shall direct."

"SEC. 4936. The Commissioner of Patents is authorized to pay back any sum or sums of money paid to him by any person by mistake or in excess of the fee required by law."

"And be it further enacted that all unexpended appropriations made for the benefit of the Patent Office and all allotments or apportionments of appropriations made to the Interior Department and intended for the use of the Patent Office, which shall be available at the time when this act takes effect, shall become available at such time for expenditure on and by the Patent and Trade-Mark Office, and shall be treated the same as though said office had been directly named in the laws making such appropriations. And all estimates heretofore submitted to the Congress by the Secretary of the Interior for appropriations for the Patent Office shall be acted upon as though made by the Commissioner for the Patent and Trade-Mark Office."

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A BILL To increase the force and salaries in the Patent Office and amending Public Act No. 188, 65th Congress, entitled, "An Act Making Appropriations for the legislative, executive and judicial expenses of the Government for the fiscal year ending June thirtieth, nineteen hundred and nineteen, and for other purposes."

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,* That Public Act No. 188 of the 65th Congress, entitled "An act making appropriations for the legislative, executive, and judicial expenses of the Government for the fiscal year ending June thirtieth, nineteen hundred and nineteen, and for other purposes," be amended as follows:

The section relating to the Department of the Interior, of appropriation for the Patent Office, is hereby stricken out, and immediately following the

said section relating to the Department of the Interior the following is inserted:

Patent and Trade-Mark Office: Commissioner, \$7,500; first assistant commissioner, \$6,000; assistant commissioner, \$5,000; chief clerk (who shall be qualified to act as principal examiner), \$3,500; seven law examiners, at \$3,000 each; examiner of classification, \$3,600; five examiners in chief, at \$5,000 each; two examiners of interferences, at \$3,000 each; examiners of trade-marks and designs, one \$3,000; first assistant, \$2,700; two second assistants, at \$2,400 each; two third assistants, at \$2,000 each; fourth assistant, at \$1,600 each; examiners—fifty principals, at \$3,000 each; one hundred and fifty first assistants, at \$2,700 each; one hundred and fifty second assistants, at \$2,400 each; one hundred and twenty-five third assistants, at \$2,000 each; one hundred and twenty-five fourth assistants, at \$1,600 each; financial clerk, who shall give bond in such amount as the Secretary of the Interior may determine, \$2,250; librarian, who shall be qualified to act as an assistant examiner, \$2,000; six chiefs of divisions, at \$2,000 each; three assistant chiefs of divisions, at \$1,800 each; private secretary, to be selected and appointed by the commissioner, \$1,800; translator of languages, \$1,800; clerks—nine of class four, nine of class three, seventeen of class two, one hundred and thirty-five of class one, ninety-one, at \$1,000 each; three skilled draftsmen, at \$1,200 each; four draftsmen, at \$1,000 each; ninety copyists; forty copyists, at \$720 each; three messengers; thirty-three assistant messengers; thirteen laborers, at \$600 each; forty-five examiner's aids, at \$600 each; twenty-four copy pullers, who shall be selected without regard to apportionment, at \$480 each; in all, \$1,887,350.

For special and temporary services of typewriters certified by the Civil Service Commission, who may be employed in such numbers, at \$2.50 per diem, as may, in the judgment of the Commissioner of Patents, be necessary to keep current the work of furnishing manuscript copies of records, \$7,500.

For purchase of law, professional, and other reference books and publications and scientific books, and expense of transporting publications of patents issued by the Patent Office to foreign Governments, \$10,000.

For producing copies of weekly issue of patents, designs, and trade-marks; production of copies of drawings and specifications of exhausted patents and other papers, \$140,000.

For investigating the question of public use or sale of inventions for two years or more prior to filing applications for patents, and such other questions arising in connection with applications for patents as may be deemed necessary by the Commissioner of Patents; and expense attending the defense of suits instituted against the Commissioner of Patents, \$2,500.

For the share of the United States in the expense of conducting the International Bureau at Berne, Switzerland, \$750.

#### MEMORANDUM CONCERNING THE BILL INCREASING THE FORCE AND SALARIES IN THE PATENT OFFICE.

The increase in the salaries and force of the Patent Office, which was provided for in the legislative bill attached to the report of the patent committee of the National Research Council, only provided for part of the increases which the members of the committee in closest touch with the Patent Office felt should ultimately be obtained.

The reason for providing for part only of the increases was that it was thought unlikely at the time of drafting the report that Congress could be persuaded to grant the full increases at that time. However, because of the already large and growing sentiment in favor of the report, the Patent Office Society feels that it is safe to ask for the full increases at this time, and has requested the patent committee to change its recommendations accordingly.

The committee has passed a resolution by unanimous vote (except for the vote of one member absent in France) recommending to the National Research Council that the bill to increase the force and salaries of the Patent Office, which is attached to the report of the said committee to the said council, be amended as recommended by the Patent Office Society, by substituting the force and salaries suggested by the Patent Office for those provided for in the said bill. The National Research Council is being advised as of May 13, 1919, of the passage of the said resolution by the committee.

The force and salaries suggested by the Patent Office are as follows:

Commissioner.....	\$7,500
First assistant commissioner.....	6,000
Assistant commissioner.....	5,000
Chief clerk.....	4,200
7 law examiners, at \$4,200 each.....	29,400
Examiner of classification.....	4,200
5 examiners in chief, at \$5,000 each.....	25,000
2 examiners of interference, at \$4,200 each.....	8,400
Examiner of trade-marks and designs.....	4,000
First assistant examiner of trade-marks and designs.....	3,300
2 second assistant examiners of trade-marks and designs, at \$2,700 each.....	5,400
2 third assistant examiners of trade-marks and designs, at \$2,200 each.....	4,400
6 fourth assistant examiners of trade-marks and designs, at \$1,800 each.....	10,800
Examiners:	
50 principals, at \$4,000 each.....	200,000
150 first assistants, at \$3,300.....	495,000
150 second assistants, at \$2,700.....	405,000
125 third assistants, at \$2,200.....	275,000
125 fourth assistants, at \$1,800.....	225,000
Financial clerk.....	2,500
Librarian.....	2,700
8 chiefs of nonexamining divisions, at \$2,500 each.....	20,000
8 assistant chiefs of nonexamining divisions, at \$2,100.....	16,800
Private secretary.....	2,000
Translator of languages.....	2,000
Assistant translator of languages.....	1,600
Clerks:	
22 of class 4, at \$1,800.....	39,600
33 of class 3, at \$1,600.....	52,800
100 of class 2, at \$1,400.....	140,000
125 of class 1, at \$1,200.....	150,000
100 at \$1,000 each.....	100,000
Skilled draftsmen:	
1 at.....	1,800
3 at \$1,600 each.....	4,800
3 at \$1,400 each.....	4,200
40 copyists, at \$900.....	36,000
3 messengers, at \$840.....	2,520
33 assistant messengers, at \$720 each.....	23,760
13 laborers, at \$660 each.....	8,580
50 examiners' aids and 24 copy pullers, at \$600.....	44,400

EDWIN J. PRINDLE, *Secretary*.

I also offer a certificate, in the form of a letter, from the secretary of the American Chemical Society, approving the report of the patent committee of the National Research Council:

(The matter referred to is as follows:)

AMERICAN CHEMICAL SOCIETY.

OFFICE OF THE SECRETARY,

Washington, D. C., June 25, 1919.

Mr. EDWIN J. PRINDLE,

PRINDLE, WRIGHT & SMALL,

111 Broadway, New York City.

DEAR MR. PRINDLE: I am instructed by President Nichols of the American Chemical Society to forward you the inclosed vote of the committee on national policy of the American Chemical Society, which is authorized by the council to act for it on matters of national policy when the council is not in session.

This vote was taken in New York City on June 24, 1919, after careful consideration of the previous reports of our committee on patents and related legislation and of the bills prepared to meet the improvements in our patent laws recommended therein.

I am,

Sincerely, yours,

CHAS. L. PARSONS, *Secretary*.



A letter was received from Mr. Edwin J. Prindle, chairman of the society's committee on patent and related legislation, regarding House of Representatives bill 5011, Sixty-sixth Congress, first session, being a bill "To establish a patent and trade-mark office independent of any other department and to provide for compensation and infringement of patents in the form of general damages, and for other purposes," and House of Representatives bill 5012, Sixty-sixth Congress, first session, being a bill "To establish a United States court of patent appeals, and for other purposes," these bills being the outcome of the recommendations in the report of the committee on patents of the National Research Council. It was also the report of the American Chemical Society, which was presented to the council at its Buffalo meeting. The bills having been carefully examined, the advisory committee, on the authority given it by the council, voted that the full support of the American Chemical Society be given to these bills, as they believe they are essential to the proper administration of American patents; that Mr. Edwin J. Prindle, chairman of the American Chemical Society's committee on patent and related legislation be authorized to speak for the society in favor of the passage of these bills; and that all members of the American Chemical Society be requested to write to their Congressmen and Senators urging prompt adoption of this important legislation.

The committee on national policy of the American Chemical Society, authorized by the council to speak for the society on matters of national policy, recommends to Congress an increase in the force and salaries of the Patent Office, as recommended by the patent committee of the National Research Council. They believe such increase in personnel and salaries essential to the proper administration of the Patent Office.

CHARLES L. PARSONS, *Secretary*.

I may say the Engineering Council represents over 35,000 engineers and the American Chemical Society has over 14,000 members.

I also offer for your record a certificate from the American Electrochemical Society, quoting a resolution of that society approving this report.

(The matter referred to is as follows:)

AMERICAN ELECTROCHEMICAL SOCIETY,  
OFFICE OF THE SECRETARY,  
South Bethlehem, Pa., June 28, 1919.

The American Electrochemical Society, at its annual meeting in New York April 3, 1919, adopted the following resolution:

"*Resolved*, That the American Electrochemical Society approves the report of the patent committee of the National Research Council and of the enactment of the legislation proposed therein, and direct that the said report shall be printed in the transactions of the society."

JOSEPH W. RICHARDS, *Secretary*.

I also offer a certificate from the Chamber of Commerce of the State of New York, approving the report of the patent committee of the National Research Council.

(The matter referred to is as follows:)

At the 151st annual meeting of the Chamber of Commerce of the State of New York, held May 1, 1919, the following report and resolution, submitted by the executive committee, were unanimously adopted.

The Commissioner of Patents, in 1917, with the approval of the Secretary of the Interior, requested the National Research Council to appoint a committee to investigate the Patent Office and patent system, with a view to increasing their effectiveness and to consider what might be done to make the Patent Office more of a national institution and more vitally useful to the industrial life of the country. The National Research committee appointed such a committee, who gave to the matter long and very careful consideration, resulting in their recommendation for the establishment of a single court of patent appeals.

The substance of their report has been embodied in a bill No. H. R. 5011, which, after introduction, was referred to the Committee on the Judiciary, where it is now under consideration.

While the executive committee does not feel empowered to request the endorsement of this bill, yet it is in accord with the efforts being made to improve the conditions of the Patent Office and patent system, and offers the following resolution:

*Resolved*, That the Chamber of Commerce of the State of New York favors the enacting of legislation by Congress in line with the report of the National Research Committee that will increase the efficiency of the Patent Office in the handling of all matters pertaining to inventions and patents, facilitating quick and more thorough research, prompt determination of the rights of inventors, and avoidance of unnecessary litigation in the courts.

Attest:

ALFRED E. MARLING, *President*.

JERE D. TAMBLYN, *Assistant Secretary*.

JUNE 30, 1919.

I also offer a letter of Hon. Julian F. Mayer, United States district judge for the southern district of New York, approving features of the report of the patent committee of the National Research Council, which I ask to have inserted in the record.

The CHAIRMAN. If there is no objection, that will be the order.

(The papers referred to are as follows:)

NEW YORK CITY, July 3, 1919.

MY DEAR MR. PRINDLE: Will you head this letter properly, as I do not remember whether the correct title is the patent committee or the committee on patents. You are authorized to hand this letter to the committee.

Yours, very truly,

JULIUS W. MAYER.

NEW YORK CITY, July 3, 1919.

COMMITTEE ON PATENTS,

*United States House of Representatives,*

*Washington, D. C.*

GENTLEMEN: I regret that I shall not be able to appear personally before your honorable committee. I will, therefore, briefly state my views in respect of the bill before you.

First. I am strong in favor of a single court of Patent Appeals. Under the present practice confusion often results, to the detriment of industry, as well as of the litigants concerned. Under the plan proposed in the bill, it seems to me that an effective single court will be obtained.

Second. I am very strongly in favor of the amendment providing for a reasonable royalty, etc. Under the present practice, patent accountings are often very expensive and long-drawn out and, owing to technical requirements of proof, a plaintiff not infrequently fails to obtain what is justly due him. I have given careful consideration to this feature and Mr. Prindle is familiar with my views upon this point and is authorized to express them to you. I do not state them here at length in order to conserve brevity.

Third. I am also of opinion that it is highly desirable that the Patent Office be an independent institution. The number and importance of applications for patents have been constantly growing and it is in the interest of scientific advance and business progress that this office have the fullest support and the fullest opportunity for development.

This, it seems to me, could be best accomplished by making the office independent rather than by continuing it as a bureau of so diversified and busy a branch of the Government as the Department of the Interior.

Respectfully,

JULIUS M. MAYER.

Mr. PRINDLE. Mr. Chairman, inasmuch as Mr. Fish will not be able to be here to-morrow, and as I understand the committee will adjourn at 12 o'clock to-day, I ask permission of the committee to interrupt my remarks at this point in order that you may hear Mr. Fish.

The CHAIRMAN. Without objection, that will be the order, and we will hear Mr. Fish at this time.

**STATEMENT OF FREDERICK P. FISH, ESQ., OF BOSTON, MASS.**

Mr. FISH. Mr. Chairman. I do not think it is necessary for me to remind the committee of the very great importance of the patent system of the United States, but at the risk of wasting a little time, I am going to say a word on the underlying principles which we have to have in mind in dealing with the questions that are here before the committee.

Just as a matter of information I would like to remind you of a remark that was made in 1859 by one of the great Americans—Abraham Lincoln—who at that time and always was a thinker and a student, and, of course, devoted to progress in this country and in the world.

At the dedication of the library in Springfield, before he was nominated for President, he said, among other things, that there were certain incidents in the history of the human race that were of preeminent consequence, not particularly because of the immediate effects growing out from them, but because of the extent to which they permeated and directed the course of civilization; and he named three. One of them was the discovery of America; one was the invention of printing; and the third was the establishment of a patent system. I was interested, as I think you gentlemen will be, to think that that man, in what was then a region that was not industrial, should have thought out so clearly the importance of this patent system.

And it is the American patent system that was first established as being worthy of the name. The English system, as you all know, grew out of the statute of monopolies in the time of James I, where the cruel and vicious habit of granting monopolies for all kinds of things, playing cards, salt, and all sorts of things, had been one of the most serious criticisms of the Tudor and Stuart kings and had led to terrible evils. When they passed the statute of monopolies it killed monopolies in that offensive sense and distinctly excepted such monopolies as were granted to a man because he had introduced into the realm a new industry, and that was the beginning of the patent systems of the world.

But that patent system was based upon what I regard as an inferior point of view. A man in England could get a patent for something that some one else had invented in a foreign country if he brought it into England.

When we established our patent system in this country under the provision of the Constitution, which says that Congress shall have power for the promotion of the useful arts to grant to an inventor a monopoly of his invention for a limited term that introduced a radically new idea, which has been most fruitful, and which has, to a large extent, been copied in other parts of the world, although the copies have not always been as good as the original.

Thus it is perfectly clear that it is inventive thought that our laws reward by a patent: that is, the investigation, the study, and the correlation of the forces of nature, the analysis of them, and the development of methods and machinery which will harness those forces for the service of man—that is the basis of our industrial progress, which, of course, has been tremendous during the last 100



years, and has been particularly accentuated during the last 15 years.

The way to bring about this industrial progress that is at the basis of prosperity and at the base of social life, is to promote the activity of that sort of invention, so that our law, from the beginning, has been that if a man will think and work and study, and as a result of that thought and work and study, will produce a new method or a new machine he shall have as a reward the right to control the use of that invention, to control the use of that machine, or to control the use of such a method, as the case may be, for a limited term, and the result of that is the very simple recognition that it is not a matter of bringing a new industry into the realm or of starting a business, but it is a matter of analyzing, investigating, and establishing new relations of the forces of nature, so that they are controlled for the benefit of mankind; that is the basis of sound prosperity; it is the recognition of that fact that has made us the great industrial Nation that we are, and in so far as that idea has been developed in foreign countries, to a large extent they have developed it along the same lines.

But we have been preeminently a Nation of inventors, as you know, and the result is our present industrial situation, of which we are and should be proud.

That proposition, of course, involves the taking away from the people of the right to do for a limited time things that otherwise they might properly do, because in the absence of a patent the public has the right to use anything it can use, and from the beginning it has been the most important effort in the development of the law, which has been consistently applied by Congress and by the courts in the spirit of the Constitution, to bring about that result that was best for the public interest. It is a great mistake for anyone to think for a moment that the patent law is primarily intended to reward inventors, because it is not. It is intended to develop industry for the benefit of all the people and is based upon the recognition of what there can be no question is a sound proposition, that the correct way to do it is to reward those who have worked out an invention intelligently in this perfectly simple and automatic method. They might be rewarded by paying them money, but nobody can tell how much an inventor should be paid, and if they simply reward him by saying, "You can control the invention for a time," the thing is automatic and takes care of itself.

Congress and the courts from the beginning have endeavored to develop the patent system in such a way that it will encourage inventors to the limit, because that is what must be done; but at the same time the public should be protected, the people should be protected against any attempt to keep them out of a field which is covered by a patent when the patent is not a good patent, and the issue of patents that are not good should be prevented. But at the same time the public faith, as Chief Justice Marshall said in the case of *Grant against Raymond*, is pledged to the maintenance of the right of the inventor where he has a real right.

Now, gentlemen, these bills are all predicated upon that underlying proposition that Congress and the courts, as has been the case in the past, want to perfect this patent system and accomplish two things: First, to give to the inventor that reward to which he is entitled,

because he has made an invention and thereby advanced the public interest; and, second, to see that in the machinery by which those inventors are protected and their rights enforced after the patents have been issued, there is no injustice, and it is just as important that there should be no bad patents issued or sustained as it is that there should be good patents issued.

When you come to this question of the collection of damages and profits, it is just as important that the public should not have to pay more than they should as it is that the patentee should receive what he ought to have.

Those propositions are the basis of this particular legislation.

I have been practicing patent law for 40 years, and have had intimate association with business in a professional capacity during those 40 years, and I should like to have you understand how firmly I believe that the patent system of the United States is of the utmost importance; that it is at the foundation of our prosperity; that if it is weakened in any way it will be a shock to us from which we can not recover; but, at the same time, we must always consider the right of the proposition, we must consider the necessity that there should be a patent granted only when there is an invention that entitles a man to a patent under the law, and that there should not be a patent granted which trespasses upon what ought to be the public domain. And when you come to the enforcement of patent rights it is of the utmost importance that the public should know as soon as possible exactly what patents are good and what are bad; that the public should know as soon as possible the scope and meaning of every patent; that the system of enforcing patents should be such as to bring out the truth and establish at the earliest possible moment exactly what portion of the domain is hedged off by the patent, so that the public can not enter upon it, in order that the inventors and those who work with them and the men who put up the money required to develop inventions may be sure of their ground and know as soon as possible whether they have a patent or not; and in order that the public, which has a right to use anything which is not validly patented, may know as early as possible whether it must keep away from a certain field, or whether it has a right to enter that field.

All of these bills are aimed at the improved efficiency of the patent system so that it may be developed in such a way as to operate for the public benefit by protecting the inventors, promoting the interest of inventors, and, at the same time, safeguarding the public in such a way that they will not be encouraged to infringe improperly and unlawfully because of errors in the procedure in granting patents or enforcing them or wrongly held as infringers.

Gentlemen, you can easily see what a difficult thing it is to decide whether a man, who purports to be an inventor and brings out something which he says is new, has really made an invention or not. In the first place, if it was known before, he has not made an invention, although he may himself have not known anything about the prior development of his idea; but he has not made an invention if it was known before. We have men in the Patent Office to investigate that question, but that it a very difficult proposition, because it happens not infrequently and will always happen no matter how well the Patent Office is organized, no matter how intelligently it does its business, that patents will be issued that are not valid.

Moreover, the English language, or any language, is difficult to present in such a form as to have the meaning absolutely definite and clear, and when a patent is issued it very frequently happens that it is not clear as to what the meaning is. It very frequently happens that an investigation into the prior art shows that the claim of a patent must have a certain meaning (although it might have two or three different meanings), it must have a certain meaning to be valid, and the courts have to investigate and study and determine exactly what the language means. So that whenever a patent is issued there are questions of its validity and construction which are of the utmost importance and must be settled before anybody knows what worth that patent really has.

When you come into court, then, again, there is the exceedingly difficult question of infringement. A man very seldom badly infringes a patent. He says he wants to improve on it, and he thinks that if he adopts a method of a certain kind he will be outside the patent, and the court has to determine the ultimate question as to whether a man who is charged with infringement is or is not an infringer. So it is a very serious matter to keep the balance right in the Patent Office; and the courts, between the inventor who must be protected on the one hand, and the public on the other hand who must have its rights preserved against patents that are not valid and against a construction of a patent which is not fair and reasonable, and which would give to the alleged inventor something to which he was not entitled.

I want to emphasize that side of it, because after all my years at this work I feel more strongly than ever that in considering this question too much attention is sometimes paid to the mere matter of the inventor's reward. Of course, you have got to reward him; that is a matter of sound public policy; but you have also to protect the public, and every one of these bills now before the committee is based upon the proposition that we are dealing with this matter in the public interest.

I am going to save to the last the question of the organization of a court of patent appeals, which is most important, and say first a word or two about the other bills.

The first one, which I shall pass over very briefly, is the one relating to the Patent Office as a separate organization. The Patent Office is now a part of the Interior Department, but here is a bill which provides that it shall be an independent department.

Now, gentlemen, it was the carefully thought-out conclusion of your committee that the Patent Office would be better able to do its work efficiently and to get the results which we seek if it were an independent department. There is no logical reason why it should be connected with the Interior Department or with any other department. Its work is of an utterly different kind from the other work carried on in that department or from the work of any other of the great departments of the Government.

Its organization is complete and independent. At the present time, under the law, the Secretary of the Interior has very little to do with the actual administration of the Patent Office. There is no question that he could be eliminated without the slightest danger or the slightest embarrassment of any sort or kind, and the committee came to the



conclusion, after giving the matter full consideration, that if the Patent Office were an independent department we should be able to get better results than when it is tied up to another department.

You understand, of course, what the function of the Patent Office is. It is to deal with an application as it is filed, and very frequently it is filed without a real appreciation by the patent attorney who draws the application of the actual merits of the invention, or even whether it has any real distinguishing character, because, unfortunately here, as in every other department of life, people make mistakes. Not infrequently an inventor himself does not understand what he has really discovered; and I personally have always had the view, in which I think the Commissioner of Patents agrees, that it is a part of the function of the Patent Office to stand between the inventor and the public, with the utmost fairness to aid in determining what is the real invention, to see that there is no patent given to a man who has not made an invention and that the patent that is given to him is for the real invention he has made and nothing else, no broader and no narrower. That is the real question, to help the applicant to find out exactly what his invention is, so that the purpose of the Constitution may be carried out, and he may get a patent for that invention and nothing else.

If the Patent Office could do that work perfectly, there would be no great occasion for litigation. But it can not do it perfectly. The difficulties are enormous. At the present time I have no doubt the Commissioner of Patents would be the first to say that the capacity of the Patent Office is limited. It is because the Patent Office has grown from small beginnings; I have talked with a man who was in the Patent Office when the force was made up of three men. But it has grown tremendously, and the organization has not been able to develop in such a way as to do the best possible work in finding the real relation between the vast numbers of applications filed and this enormous art that has grown up all over the world increasingly during the last few years. The net result of the whole effort is inferior work.

Now, if there is a self-controlled organization which centers its attention upon this work and no other, and if there is an organization that is not embarrassed by the fact that it has a superior who has to coordinate the demands of that organization with the demands of the Land Office and the Pension Office, and the other offices in the Interior Department, looking at them all alike, without any specific reference to the particular needs of this department; if the whole attention of the department is concentrated upon this work better results will be attained—never perfect results, but much better results. And for that reason I am strongly in favor of the Patent Office being established as an independent department.

It will not cost any more to conduct the office in that way, although I do think that if the man under whose charge the Patent Office comes was not hampered by having at the same time to correlate the needs of that particular office with the needs of the other bureaus in the Interior Department that have no relation to the Patent Office, if he was not subject to criticism in regard to the performance of his duties and subject to be charged with discrimination against other bureaus if he favors the Patent Office, there would be a develop-

ment of the Patent Office along lines absolutely needed for the promotion of our prosperity. I believe that the Patent Office would do better work if it were independent.

That brings me to the second bill which is before your committee, and that is the one increasing the salaries of the employees in the Patent Office. I hope, although I am not familiar with the bill in its present form, that that bill will receive your favorable consideration. There is not any doubt whatever in my mind that there are no employees of the Government, that there are no employees of any organization in the United States, that are so badly treated in the matter of salaries as those in the Patent Office. Those men are specialists; they are men of education; they are men who, if they get out in the world, are able to do well for themselves and to render great service in the world.

But in the Patent Office the limit of the salary of a principal examiner is \$2,700, and there has been an increase of a small percentage only in the last 50 years in their salaries, and the cost of living has gone up 75 or 80 per cent.

Those men, who are educated men, who are specialists, who have a tremendous responsibility, are at work for \$2,700 a year, which means that they can not educate their sons to follow them as members of the Patent Office force; they can not afford to give their sons an education. The situation is nothing less than scandalous.

The effects are manifest. I am told that something like 25 per cent of the officials of the Patent Office have resigned in the last three years, and the business of this country is filled with men who got their training in the Patent Office. Men go into Patent Office work not because they treat that as their vocation, but simply as their training. That is not right, because it seriously affects the efficiency of the office. Those men are of relatively little value for the first two years they are in the Patent Office, and if they are in there under such conditions that there is no temptation for them to stay, that is very demoralizing in this tremendously important matter of endeavoring to find out, when a man files an application, what an application means, whether it is for a new thing and filed in such a way that he will get that patent to which he is entitled and one that has no broader and no narrower scope.

If the Government of the United States, by the expenditure of millions of dollars could increase the efficiency of the Patent Office 25 or 30 per cent, that expenditure would be justified, but it is not fair or reasonable that you should expect the most efficient work from men who are paid such niggardly salaries.

I would like to say one other thing which bears on this question. I never apply for a patent, but I have known a great deal about the Patent Office for 40 years, and I think it has a remarkable record for the honesty and for the loyalty that the officials of that office have shown during all these years. I can only remember one or two scandals in that whole period, and yet the temptations are tremendous. If a dishonest man on the outside could get in touch with a dishonest man in the Patent Office, there would be room for the most serious scandal if the Patent Office officials were false to their duty; if they would even tell what is in the Patent Office their fortunes would be made.

We are not a dishonest people, but all the same it is a blessing that we have a Patent Office whose officials have been so true and loyal, and I always like to advertise that fact to the credit of the Patent Office.

On those two things, the organization of the Patent Office as a separate department, and decent pay for the men in the Patent Office, I crave your cooperation, for it is the best investment that can be made if this Government sees to it that the preliminary work is done under the most favorable conditions and in the best way for the people of the United States.

It is not necessary for me to remind you that the Patent Office is much more than a self-supporting department, and if the Patent Office should only have the amount it earns I think that is all it would need in order to be lifted to a much higher scale.

Although there are only three bills before the committee, there are really two other separate matters to which I would like to call your particular attention.

Assuming that a patent is issued, what happens? Nobody knows whether that patent is valid or not or just how much ground it will be held to cover. They would know much more about it if the Patent Office could be put on a sound business basis, where the men were there for life, and would stay there because they were getting proper compensation for their services and devoted themselves to the Patent Office work as a career. But the Patent Office has not been given facilities for study and investigation which it ought to have, and if it did have such facilities a great deal could be done that would improve the standard of work of the office and lead to the issue of fewer patents that were of a doubtful scope or validity. But even then there would be uncertainties which could only be settled by the courts.

The first thing that happens, assuming a patent is issued, is this: An invention is made—I do not care whether it is made in a big organization or by a small man—among the greatest inventions in this country are those that were made by individuals who had no resources whatever, who simply by their brains and intelligence have made an invention which they could not have developed unless they could interest capital to handle the invention on a large scale. Take, for illustration, the Bell telephone. There are \$800,000,000 invested in the Bell telephone, and it all goes back to that one individual man, Bell.

In that sense in all countries somebody with money has to take hold and help the inventor. In the case of an invention made in a big organization like the Steel Corporation or the Westinghouse Co., there again is the question of the enormous amount of expenditure involved, in perfecting the invention and developing it so that it can go on the market. In the case of most inventions before they are fit to go on the market the expense of development is very large, and unless there is a reasonable assurance that the patent is valid and will be protected by the courts you can not get people to make an investment on the chances, and it is a very serious question; it is always a serious question when a man with capital faces that situation, whether he will take the chances or not.

So, for that reason, it is of the utmost importance that the patentee should know exactly what the scope and the validity of the patent in question may be. On the other hand, how about the public?



A patent may be on a household article; it may be the basis of the biggest kind of work in a big factory; it may be related to a locomotive or an electrical machine; it does not make any difference what it is. If the patent is valid the public must stay out of the field covered by the patent for 17 years. If it is not valid, it is a crime that they should be forced to stay out of that field and there is something wrong with the law if they are forced to stay out of that field. Yet they do not know. Here is this patent issued by the Patent Office, after the best possible effort on the part of the Patent Office, but the office may not have found the prior art or may have allowed language in the patent that was not suitable and accurate and exact. What is the situation, so far as the public is concerned? They do not know and they can not tell. We do not want to keep the public out of the field of an invalid patent, or out of the field that is not covered by the patent which uses vague language. The public should not be deprived of the right to use the device unless the law and justice so requires.

So it is of the utmost importance that there should be the earliest possible decision of the courts as to the validity and the scope of the patent, as to what may or may not be done in view of that patent. What is the situation in that regard?

A suit is brought. Under the old practice the litigation dragged on for years. Sometimes the plaintiff was slow and sometimes the defendant was slow; generally both were slow; and during the progress of that litigation the whole thing was in the air. Infringement was promoted by the fact that the suit was pending and nobody knew how the case was coming out, and therefore the patent, if valid, was reduced in value enormously. The public were getting what they were not entitled to.

But, on the other hand, if the patent was invalid, the fact that there was litigation kept the public from using that to which they were entitled, and the delays in litigation were a most serious blemish on the patent system.

I have worked continuously for the improvement of the patent system, and I look forward to the time when there will be a distinct improvement in the matter of the trial of cases in court. Definite progress has already been made in that direction.

But finally you get to the decision, and that is the decision of a single judge. The judges of the Federal courts are men of the highest standing all through this country, and they do their work well; but, as is always the case in all human affairs, there is a chance for error. And then comes the question of the appellate court which will pass upon the question on appeal.

Before 1891 that appellate court was the Supreme Court of the United States, and nobody questioned for a moment the capacity and the power of that tribunal. When a case went to the Supreme Court it was decided, and the decision was the law of the land. That was the tribunal for the whole country, and practically in every case that decision in the Supreme Court, which may not have been rendered until after seven or eight years of litigation, was decisive. The public said, "In view of that decision we know what we can do and what we can not do, and we will respect the patent as the Supreme

Court has construed it; or we will go on and do what the Supreme Court has said we might do, by using it or adopting some alternative which the court has said was not included in the patent."

That condition was a serious one because the case was usually about four years in the Supreme Court. There are three cases in which the Supreme Court has overruled itself in patent matters in its entire history, but when you figure it out those three cases are not a very large percentage of the patent cases that have been before the court in the 125 years of its history.

Then, in 1891, the condition of the docket of the Supreme Court was such that the courts of appeals act was passed as a matter of absolute necessity, and the effect of that act was the elimination of appeals in patent cases from the lower courts, the single judge who tried the case in the first instance to the Supreme Court (except in the rare instances where the Supreme Court takes up a case on certiorari, which hardly ever happens unless two lower courts have disagreed), and the substitution of nine different appellate courts, whose conclusions are final in the cases which come before them. There is one on the Pacific coast, one in New England, and so on throughout the country.

Those court of appeal judges have done a wonderful piece of work; there is no sound criticism to be made upon the way in which they have handled the situation, considering the inherent difficulties of it. But it has developed some very serious and unfortunate consequences, serious and unfortunate to the patentees and to the public.

In the first place, under the present condition, if either the plaintiff or the defendant in a patent suit loses his case, he says to himself that the particular court in which his case was decided only controls the territory, for instance, in the first circuit, Maine, New Hampshire, Massachusetts, and Rhode Island, and that he may be able to get a different decision in another court, in a different part of the country; he has every inclination to try his luck in Ohio, or in New Jersey, or somewhere else, and very frequently when the plaintiff is beaten he will go into another court, in another section of the country, and try the case over again. In like manner infringers in other circuits will go on as before, hoping for a different result in a new case against them. And I regret to say there have been repeated instances where in cases of that sort the courts have differed. The court of appeals in one circuit has not infrequently taken one view of a patent, and the court of appeals in another circuit another view of the same point.

During all that time, while this litigation was pending, the patentee does not know where he is and the public does not know where it is, and the result is millions and millions of dollars of loss and embarrassment and annoyance and hardship that is intolerable.

But that is not the worst of it. These nine independent circuit courts of appeal all read the same statutes; they all honestly try to apply the same law; and their language in the opinions when stating the law is to a large extent the same, although their conclusions as to any given patent or question of infringement may differ; but they take different views of the law, their spirit is different, each court adopts and develops its own way of looking at patent ques-

tions, each has its own atmosphere, and the result is that those of us who have experience in patent law have a pretty good idea whether it is best for us to try a patent suit in the sixth circuit or the first circuit or the third circuit, and I am sorry to say that that matter is considered by counsel, and they are bound to consider it when they bring a suit. That is a very serious situation, that we should have in effect one law in one part of this country, and another law in another part of the country on the same subject matter; but yet that is the fact. The Supreme Court has a right to take up a case on a writ of certiorari, but the condition of its docket has been such that it is only under most exceptional circumstances and conditions that it will take up a patent case. When it does take up a case it is almost always where two circuits have expressed opinions on the same subject matter, which are divergent. There are over 20 patent cases which have been taken up by the Supreme Court on that ground. Hardly any have gone to that court for any other reason.

But that is not the only question. The matter that is of most importance is the individual spirit of the nine different appellate tribunals in passing on the law and in dealing with the facts, and in the point of view which they adopt. And these are very different in the different tribunals. There clearly should be the utmost effort to settle the validity and the scope of a patent as soon as possible (and it could and should be practically in the first case), so that the public may know what the situation is and so that the patentee may know. It is an outrageous extravagance and a tremendous waste and an economic loss of the most serious character that there should be such an element of great uncertainty as exists at the present time. If such evils can be corrected by a change in the machinery of the courts, such change should be made.

The committee will recognize that in a patent case, unlike most litigations, while on the surface it is simply a case of Smith against Jones, the suit of one man against another, as a matter of fact, it is in effect and should be regarded as a suit by the patentee against the people of the United States; that is to say, the rights of the people of this country should be settled in the first litigation. The rights of the people of this country and the rights of the patentee should, as far as possible, be known as soon as the first case has been decided. Of course, there might be new facts or new features which would justify further litigation; but, as far as the propositions advanced in the first case are concerned the matters there presented and passed upon should be settled for all time. The decision in the first case should be final and controlling so that all parties may know what the situation is. The patentee and the public should recognize that there, in that decision, are defined all the metes and bounds of the patentee's monopoly and his rights and the rights of the public.

That is not the case at all to-day. If we had the court of patent appeals that some of us have been working for for 21 years, it would bring about an enormous advance in this most important matter. We should then have one court of appeals which would be a court of appeals, like the Supreme Court, for the whole Nation, and when that court of appeals had spoken in the first suit that was brought on the patent, it would be speaking not merely to the particular parties in



that particular case, but would be speaking to the patentee on the one hand, and to all the people of the country and all the lower courts on the other, and would lay down law and establish facts which from that time on would be binding in reference to that particular patent upon all the people and upon all the courts of the land. The result would be that after the decision in that first case business could adjust itself to the conditions fixed by the court. The public would know just what it could do, and would say, "The appellate court has declared that patent valid or invalid or has given it a broad or a narrow scope." Everyone would know that the issues passed upon were finally decided because that court has spoken, once and for all, and had settled the questions before it; so that the lower courts, the patentee, and the public would know where they were, and they could adjust themselves to the situation established by a court of last resort which spoke to and for the whole country.

Nothing human is perfect, and there will be difficulties and troubles, but I personally believe there will be the greatest relief to the manufacturers and to the public generally in this country, as well as to the patentees if we have a single court of patent appeals.

Now, gentlemen, that bill providing for a court of patent appeals has received most careful consideration from many interests throughout this country, and it has stood in its present form for about 21 years. It is a bill that was drawn after the exercise of great care, and is thought to meet the conditions as well as possible. We who are in the patent practice, and many inventors, and patent owners, who have given thought to this matter, all, I believe, who are inclined to study questions of this sort, feel that it would be most unfortunate to have a court of patent appeals made up of patent men appointed for life, as all judges should be, and who worked exclusively in the relatively narrow groove of patent litigation. Judges who traveled year after year in the same narrow path of judicial duty would almost certainly become narrow themselves. They would get away from the big principles that must be borne in mind if you are going to have real justice. They would become technical and decide cases as experts and not as judges. So this bill provides that the court shall not be one of specialists. The bill provides for a court of seven judges. I think seven are necessary, although in some of the prior bills five judges have been suggested; but I do not think five are enough. The bill provides for a chief justice to be appointed by the President for life, so that there may be an element of continuity in the court. But the chief justice is the only one who is appointed for life. The other judges are taken from the very men who have been selected as judges in the different circuits and who now decide patent cases. There is no added work, because the appeals to the court of patent appeals take the place of the same patent appeals that now go to the nine different appellate courts in the different circuits. It is the same work and the same judges do it.

It is provided in the bill that the Chief Justice of the Supreme Court of the United States shall appoint, in the first instance, three judges from the circuit or district courts for three years, and three for six years, and afterwards there will be a term of six years for each of the judges designated for that work by the Chief Justice of the Supreme Court of the United States.

There you do not have mere patent specialists. You get away from any chance of anybody saying that a man was appointed because of some special interest, because he was a patent specialist who holds known views. The judges are taken from those who have been selected by the President of the United States as the best men for their individual circuits, and the Chief Justice of the United States Supreme Court can be trusted to say, "I will take Judge So-and-so from New York, and I will take Judge So-and-so from Minnesota, and I will take Judge So-and-so from Texas or from California, and bring them all to Washington to serve on this appellate court." They come from their different districts or circuits, each having had a certain experience in patent matters, each having lived in the community, which he has served, and undoubtedly sympathizing with the attitude of that community on patents as well as on other questions. These judges come to Washington and sit as a circuit court of appeals; and if you give them time they will surely develop a uniform patent law for the whole United States of America that will not reflect the particular attitude of any particular portion of the country, but will reflect the attitude of the country as a whole. The men who practice patent law and the men who are interested in patents, as well as the people of the country, need first of all uniformity. They want to know what the law is, and then they will adjust themselves to that law. Give a court of that kind time and it will build up a uniform patent law, not merely as far as the principles are concerned, because, as a matter of words, they are uniform to-day, but also as far as the atmosphere and the instincts and the point of view are concerned, and that is the only way in which we can get the uniform patent system that we need if we are to progress industrially on sound lines.

But that is not all. These men will stay six years. Some may be reappointed or may not, but new men will be constantly coming up from the different circuits. They will sit in this patent court and will become saturated during their terms with the patent law as it is developed, and this will be one of the greatest tribunals in the world. They will go back to their circuits at the end of their terms, and they will be trained patent judges, not merely because they have read books and have learned from books the law and the way in which the law should be applied, but trained in the sense that they have been for six years in this tribunal, and they will go back each to his own part of the country saturated with the instinct and the substance of a uniform patent law from participation in its development. Then we shall have what we have not got to-day, a uniform patent law throughout the whole country.

I never have heard one single reason advanced by anybody that seemed worthy of consideration against this court of patent appeals. I have heard lawyers say it is more convenient to go to Boston or Chicago or Cincinnati than to come to Washington. They say that, too, about the Supreme Court of the United States. But the additional trouble and the small added expense that might be incurred would be nothing as compared with the great principle of having a uniform patent law, uniformly applied, where a decision of the first case will go a long way toward settling the validity and the scope of a patent, and toward determining the acts that will or

will not infringe it. That is the thing we want to get, and we need it inexpressibly.

In this bill you will find a suggestion that the chief justice of this court shall be paid a salary of \$12,000 and the other judges shall be paid salaries of \$11,500 each. This court will be one of the utmost importance, and these Federal judges can not be expected to give up their homes and their surroundings and their environment, where they are contended and happy, unless there is reasonable and proper compensation for the extra burden imposed upon them. It is not like the case of the judges of the Supreme Court of the United States, who live in Washington all the time; and these judges of the court of patent appeals would be clearly entitled to compensation for this disintegration of their personal convenience and personal affairs. I think that they might come anyway, because there are a substantial number of judges throughout this country who feel as strongly as I do the defects of the present system, because there are nine courts of appeals, when there ought to be one, and they will make sacrifices to come here, but they should not be asked to do that.

That is the point of view from which I have been looking at this court of patent appeals proposition for over 20 years, and I urge you gentlemen of this committee to give it your careful consideration. I have been before a number of committees of Congress on the matter, and I do not think that I have ever found a committee that did not feel that the creation of a court of patent appeals was a matter of vital consequence. The matter simply has not received favorable action from Congress because it has not been properly pushed. It has never had the right of way that a measure must have to get through Congress.

Under the conditions that existed before the great war the importance of the matter, in my opinion, justified its being pushed with the utmost energy through Congress, as a matter of the largest consequence to the industrial prosperity of this country, but now it is a matter of even more serious importance. Our industries, as the committee knows, are in an abnormal condition in many respects, and anything that can be done to stabilize them and make it easy for men to do business should be done. Uncertainties should be eliminated, as far as possible, so that the public and those concerned with industry can figure accurately and intelligently as to the ways in which they are to work, and the lines along which business is to be developed. I do not myself know of many things that are of more importance than this particular proposition, namely, the putting of patent litigation into such shape that a single court of appeals in the first case that is brought will, practically or at least to a very large extent, settle all the questions arising under a particular patent, and settle them for the whole country, thus doing away with that uncertainty, without that feeling that some other court may take a different view which prevails to-day, and surely will prevail as long as we have nine individual, separate courts of appeals.

Hidden away somewhere in one of these bills is a matter which can be dealt with in a few words, which, again, I think is of much consequence in the interest of the public and in the interest of patentees, and that is a question of the revision of the law on the matter of profits and damages.



The CHAIRMAN. That is section 15 of the bill H. R. 5011.

Mr. FISH. That is section 15 of H. R. 5011. Thank you, very much. Now, gentlemen, there is the same underlying principle which I urge you to take into account if you want to have justice done as between the patentees, whose rights must be recognized and protected, and the public. In the old days, up to within a very few years, the principles of law were perfectly clear on this matter of the recovery of profits and damages. The plaintiff in a patent case, as well as the plaintiff in any other case, had to prove his damages. Of course, he has to prove his damages. He asks for them and he has to prove them, and how is he going to do it? It is perfectly clear that he should get the damages or profits that are due to the use of the invention which he has made, and that he should not get damages or profits that are due to something else. In almost all the patent cases the invention is not for the entire structure or article, but for a part of it only; and when you come to try to figure out mathematically the damages that are due, that have been caused the plaintiff because of the use of the invention as distinguished from everything else—when you come to try to figure out the profits that are due to the use of the invention as distinguished from the profits that are due to the manufacture and sale of the whole article—you get into an inextricable snarl from which you can not get out. In most cases the profits and damages due to the invention can not possibly be figured out.

The result was that the difficulty of proving profits and damages was such that it was a maxim up to within a few years that there was no use trying to collect damages or profits in a patent case. You could get your injunction, and that would take care of the future, but when it came to profits and damages, the just compensation for past infringement, you simply could not prove them. That was a dishonest result, an unjust thing, and the courts properly resented the injustice. Over and over again the courts have said, "The defendant has wronged the plaintiff, and has done it deliberately, but the plaintiff can not show the specific damages or specific profits that are due to the use of the invention as distinguished from everything else, and therefore we can not give him anything—we can only give him 6 cents."

I had one particular case in New York where I was beaten, where my client had cost the plaintiff an enormous amount of money. I have no doubt, of what the courts found to be an infringement. The master found \$186,000 against us, if I recollect right. That finding went to the court of appeals, and it said, "No; the damage is clear enough, but you can not figure it out mathematically; you can not show affirmatively what was the damage or the profit due to the unlawful use of the invention; and therefore the award is 6 cents." And that evil impressed the courts so that a few years ago they began traveling in the opposite direction. I think in the third circuit they first jumped at conclusions. They would say, "Well, we will work it out some way and award compensation even if not proved strictly in accordance with the harsh rules of law. The Supreme Court of the United States finally had a case in which that harsh rule of law, as I have stated it, was modified almost by judicial legislation. It was the Westinghouse-Wagner case, where

the plaintiff tried to but could not figure out the damages that were due to the use of the invention or the profits that were due to the use of the invention, because they were inextricably confused by the fact that the invention was only a part of the thing sold, and the damage to the plaintiff and profit to the defendant came from the sale of the whole article. And the Supreme Court said that where by reason of such confusion the plaintiff, who had done his best, had been unable to segregate the profits and damages due to the unlawful use of the inventions, the burden of making such segregation shifted to the defendant; and if he could not make the separation, he should pay as if the patent was for the entire article. That was just as impossible a thing for the defendant to do as for the plaintiff, just exactly, and while the Supreme Court, dealing with the facts of that particular case, laid down some law that fitted that particular case and out of which there might be a sound result, for this particular case it only confused the situation still more. A short time after another case came before the Supreme Court, where the court saw the injustice that would follow any such rule based upon the mere shifting of the burden of proof. In that case, the Dowagiac case, for probably the first time the court suggested that where exact proof failed the court might find and award to the plaintiff a reasonable compensation, as in an accident case or any tort case where the plaintiff is supposed to show his damages and prove them, but what happens is that the tribunal does the best it can to give the plaintiff what is fair and reasonable, considering all the circumstances. It is a perfectly sound proposition that compensation should be awarded in a patent case as are damages in an accident case or tort case, and if they can not be figured mathematically, it is perfectly fair that a good, sound judge should come to as nearly a correct conclusion as he can.

As a consequence of this shifting of the law, to which I call attention, particularly after the Westinghouse-Wagner case, there were several decisions giving the plaintiff an enormously greater amount than he was entitled to. I will not name any case, but I could name several where damages were awarded which, in my humble judgment, were excessive, because the courts were going on this other swing of the pendulum and were again trying to figure on an artificial basis where exact proof was impossible, and came to a conclusion which was just as harsh to the defendant as their former conclusions had been harsh to plaintiffs. Such a matter can not be justly settled by an appeal to the burden of proof. This provision in the bill, as the committee reported it, is this:

If proof is not offered or, in the absence of adequate proof of the amount that shall be awarded as damages or profits, the court, on due proceedings had, may adjudge and decree to the owner payment of a reasonable royalty or other form of general damages.

I can not imagine anything more fair, more reasonable, or safer. That is to say, the court will, as an intelligent man trained in sizing up the situations, simply say that the damages will be \$1,000, or \$10,000, or \$20,000, or \$500,000, in view of all the conditions.

Mr. McDUFFIE. Do you object to being interrupted?

Mr. FISH. No, indeed. I should be glad to be interrupted.

Mr. McDUFFIE. You have made reservations?

Mr. FISH. I have made a reservation; that is to say, this section as drawn says that in the absence of any proof being offered, or in the absence of adequate proof of the damages, then the judge may do what is fair. I say no statute should assume that there is not going to be an attempt at proof; that is all. Proofs should be offered to the limit and the court should have the power given by this section only when the proofs are not adequate for a mathematical finding.

Mr. McDUFFIE. That is the proposition I was going to get at.

Mr. FISH. I made that suggestion, and I simply say, "Let the plaintiff make every effort to prove his case, but if that proof is not adequate then let the judge have the power to award reasonable damages," but the damages ought to be proved, if possible, and it is only where it can not be proved that I say the court should have this right which the Supreme Court has intimated that it has now; but it would help enormously if the statute should establish it. I took the liberty of making that reservation, because I do not think that the statute should assume that no proof would be offered. If it is a possible thing the plaintiff ought to recover what is proved to be the damage he has suffered or the profit the defendant has made by the unlawful use of the invention, but if it can not be proved, then let the court have the power, as in an accident case or any tort case, to do the best it can to do justice.

I have taken more time than I expected. I have not said much that is not in our report, and you who have read the report will see that it presents everything that I have said better than I have said it; but I urge you to recognize that this is a critical time in American industry, and that the one thing which we need inexpressibly in the patent system is, first, such improvements in the Patent Office as will make it as nearly certain as possible that right patents are issued in the right way and wrong patents are not issued. I believe that as a practical matter these two things, an independent patent office and decent pay for the force, and particularly the latter, are essential. Then we need a single court of patent appeals to give us a uniform law and such conditions that the first suit brought will practically settle all questions as to the validity and scope of a patent.

The other, the question of damages, is of large but of much less consequence; but the proposed legislation is so fair and so reasonable, and, I think, would operate so much to the advantage of everybody, that I sincerely hope for favorable action of this committee and Congress as to that matter also.

Mr. PRINDLE. I want to ask, in reference to the organizations referred to by Mr. McDuffie, whether or not this court of patent appeals bill has not been indorsed by the American Bar Association and the American Patent Law Association?

Mr. FISH. You know better than I do about the Patent Law Association, but it has been indorsed many times by the American Bar Association.

Mr. JOHNSTON. In the event that you succeed in securing the creation of this court of patent appeals, how long do you estimate it would take, with the employment of reasonable diligence on the part of the litigants and their attorneys, to secure a final and conclusive judgment in a patent case?

Mr. FISH. Let me say a word on that subject. In the old days, when we practiced under the sixty-seventh rule in equity, few patent



cases were decided in less than a couple of years, and sometimes they ran seven or eight years. Now the courts and lawyers are learning this new practice of open-court trials. The judges do not yet know how to try a patent case in open court, and the lawyers have even more to learn. It will be several years before we lawyers and the judges become educated so that that job can be done as it should be.

I think there have got to be several improvements in the procedure. But when we get settled down, with the new practice, I think that a case ought to be through the court of patent appeals and the whole matter cleaned up in 18 months in almost every instance, and very likely in less time than that in the majority of cases. The rules are all right. You file your bill, and the answer has to be filed right away; the case goes right on the calendar, and that means that in three months you can have a trial, if either side pushes for it and the calendars are not too crowded. Of course, no one can say how long the judge of the lower court will take before he renders an opinion; they are generally prompt. An appeal can be taken right away, and then the court of patent appeals can handle its work—it will be a busy court, but it can handle its work so that the average case would not be in that court more than three or four months.

Mr. MACCRATE. What is the percentage of patent cases as compared to all other cases in the circuit court of appeals?

Mr. PRINDLE. In the northern tier they are about 35 per cent of all the equity cases.

Mr. MACCRATE. That is, of all the equity cases in the circuit court of appeals it is about 35 per cent?

Mr. PRINDLE. Yes.

Mr. MACCRATE. After you have established this court of appeals, is there not danger of flooding that court?

Mr. FISH. That matter was very carefully studied. I studied it myself a number of years ago, and I am satisfied that this single court of appeals can easily handle all appeals in patent cases. The Supreme Court of the United States used to handle every one of them.

Mr. MACCRATE. But inventions are increasing at such a rapid rate.

Mr. FISH. But patent litigation is not increasing as rapidly as you would think. It averages 10 per cent for the whole country, by the way.

That leads me to one thing to which I would like to call attention, although it is already in our report. The Chief Justice of the United States, under this bill, can designate judges for the patent court of appeals from any circuit or district that he chooses, and he would surely consider how busy each particular circuit was as compared to the other circuits in determining whether to call a man from the second circuit, the fifth circuit, or whatever it might be. That is one thing he would do. You also know that the law does not prevent the judges going from one circuit to another. For instance, to-day in New York there are always one or two or even three judges from Alabama, North Dakota, and elsewhere that are there in the New York district courts. Of course, it would not be a serious matter if you had to appoint a new judge occasionally. That is a very small expense, so that there will be no difficulty, and, as you know, just the same work has to be done by the same judges; that is to say, the

cases that go to the patent court of appeals now go to the same judges and others in the nine present courts of appeals, so that the nine courts will be relieved to that extent, as far as the patent work itself is concerned. Mr. Prindle says that 10 per cent of the cases are patent cases, and after a very careful study I was satisfied that while the proposer appellate court would be a busy court, it could without difficulty handle the patent appeals from the circuits without straining itself at all.

Mr. MACCRATE. Would not that last statement be violative of your argument that you could get your judges from all over the country?

Mr. FISH. I beg pardon.

Mr. MACCRATE. Would not your last statement be violative of the argument that you would get your judges from all over the country. For instance, you could not take a circuit judge very well from New York or one of the other busy circuits?

Mr. FISH. I think that you could. He could get away. There are enough of them; they would be relieved from appeals in patent cases, and they could call some judges in from the outside if necessary. I think it is quite possible. At the time I looked into this matter a number of years ago one of those judges in New York was very anxious to come, and would have come, and very likely he would have been appointed.

Mr. McDUFFIE. Are you not getting away from the general principle of common law to say that a man can get damages if he can not show damages?

Mr. FISH. No, sir. How about an accident case? He must show that he is hurt and how much, but he does not have to prove his damages with mathematical precision.

Mr. McDUFFIE. There are certain rules laid down.

Mr. FISH. I understand that, but it is not a question of mathematics in those cases. The jury estimates damage, including his actual suffering and awards proper compensation for it.

Mr. McDUFFIE. That is true, but he makes proof of it.

Mr. FISH. In these cases where there has been such injustice done the patentee any man, woman, or child over 6 years old if they saw the situation would say that the patentee has been greatly injured, but you simply can not figure mathematically, in most cases, how much he has been injured by reason of the unlawful use of the invention as distinguished from everything else. He can show that the defendant has made \$500,000 or \$50,000 in profits or some other amount by the manufacture and sale of a device in which the invention was incorporated, and that that device was really improved by the use of this invention to such an extent that very likely it could not have been sold without it at all. All that proof the plaintiff can make. He should be called upon to make it. What he can not prove is the exact amount of his damages, due to the use of the invention as distinguished from everything else.

Mr. McDUFFIE. You are giving this court final jurisdiction?

Mr. FISH. Yes; the court of patent appeals.

Mr. McDUFFIE. They can not go from there to the Supreme Court?

Mr. FISH. By certiorari.

Mr. McDUFFIE. The right still exists to go on up?

Mr. FISH. By certiorari.

Mr. McDUFFIE. And that means delay?

Mr. FISH. Oh, yes.

Mr. McDUFFIE. You are not going to avoid delay?

Mr. FISH. All delay can not be avoided; but certiorari is nothing. You file your application up there, but in 99 cases out of 100 it is denied the next Monday.

Mr. MACCRATE. Does not this diversity of opinion in courts apply to all branches of the law where there are appellate courts in certain State districts?

Mr. FISH. Unquestionably, but there is this distinction and it is a very important distinction. If it is a case of A against B on a contract or for a tort, or any other ordinary controversy, the first trial settles the case and it is out of the way. If it is a patent case, a suit between a patentee and an alleged infringer it should be looked at as a suit by the patentee against the people of the United States. As far as possible everything should be settled in the first suit. Other infringers would, of course, have their day in court if they wanted it, but a decision of a single national court of patent appeals would be binding in all other cases to the extent to which that court covered the ground.

Mr. MACCRATE. Just in that line; in New York State, for instance, there is liable to be a certain opinion on something in one appellate division, and in another appellate division just the opposite opinion. Those decisions still stay. Those are public cases, not private cases, and we have got to live under them until the court of appeals will in some way coordinate them.

Mr. FISH. I understand. There is not any question whatever but that as long as the law lasts there will be such absurdities as you mention. There will be absurdities in the patent system, but as a practical matter, the decision of the court of patent appeals for the whole country will practically stop the litigation, and the 50 or 500, or 5,000 or 10,000,000 people in the United States who are interested directly or indirectly in knowing what the patent means, and its scope, will know it from that time on.

Mr. McDUFFIE. Do you think that there would be work enough to justify having seven judges?

Mr. FISH. I think so.

Mr. McDUFFIE. Do you think that seven judges would have enough to do?

Mr. FISH. I think so.

Mr. McDUFFIE. Dealing with nothing but patent law?

Mr. FISH. I think so, but I remember a number of years ago I considered five, because if seven are needed more can be put in afterwards, but I think seven are needed. At the same time, if we get five and need seven, we can get them.

Mr. McDUFFIE. What percentage of all litigation does this patent litigation constitute, not only equity, but of all the docket? What part of the docket is taken up by it? How much of the docket is taken up, by and large, so far as this patent litigation is concerned?

Mr. FISH. There is very little patent litigation at common law; practically none; I do not think one-tenth of 1 per cent. It is all in equity. Mr. Prindle says that 10 per cent of all the cases are patent cases.



Mr. McDUFFIE. I do not mean in equity; I mean the whole docket. law cases and all other cases, that might be brought before the court. What percentage of the court docket is or constitutes patent litigation, whether in equity or law?

Mr. PRINDLE. Ten per cent of the total of law and equity combined.

Mr. FISH. Let me remind you of one other thing, that the average patent case, without the slightest doubt, taxes the court's powers more than 10 ordinary cases.

Mr. McDUFFIE. I should think so.

Mr. FISH. They are difficult; they are difficult to the last degree, and while the courts always try to find some cardinal proposition which will enable them to take the line of least resistance, they are obliged to study enormous records thoroughly; they can not do otherwise without injustice, and they know it. I had a decision come down within two months where the judge must have worked—I do not see how he could possibly have done that job, mastered the case, and written that opinion in less than 8 or 10 weeks. It would have been easy enough if the judge wanted only to get the work out of the way to skim the surface and enter a decree for one side or the other, but it would not have been fair to the parties, and the Federal courts do not work in that way, so the judge went to the bottom of the matter.

Mr. McDUFFIE. What is your idea of getting this court from the circuit courts? I do not mean taking away their jurisdiction, but why select these circuit court judges to constitute the court?

Mr. FISH. Because I know perfectly well that a tribunal that is made up of judges who hear nothing but patent cases would become in a short time an incompetent tribunal. They simply would not have that general power, that comprehensive power, that breadth of view that is required in patent cases almost more than anywhere else, and which is at the root of judicial efficiency. I personally can tell you of certain judges in this country that have an instinct for mechanism, and I do not like to go before some of them, because they do not approach the case as a judge, and I want a judge. On the other hand, I have argued patent cases before men who had no instinct for mechanism whatever, and they went at the thing as a judge and got results.

Mr. MACCRATE. Would this six-year term be a permanent term for any one man?

Mr. FISH. Six years; yes.

Mr. MACCRATE. He would be here at the end of six years?

Mr. FISH. Yes.

Mr. MACCRATE. Then at the end of six years he would become a patent crank himself, would he not?

Mr. FISH. No; he would not in six years. About the time that he did become that he would go back to his circuit and have a lot of other work. Moreover, he comes to this court as a trained judge and he would not lose the results of his training in six years.

Mr. McDUFFIE. What would become of his work while he was here?

Mr. FISH. In the circuit?

Mr. McDUFFIE. Yes.

Mr. FISH. In the first place——

Mr. McDUFFIE. Appoint another man?

Mr. FISH. You do not need to appoint another man in many cases, because that circuit is relieved of all its patent appeal work, and the judges that are left there can handle the business, the district judges sitting on the court of appeals when necessary.

Mr. BABKA. What guaranty would you have that he would go back after six years?

Mr. FISH. He would not get his pension unless he went back. He could not stay on the patent court unless redesignated. The Chief Justice of the Supreme Court would work that in a fair way.

Mr. BABKA. Perhaps he would care more for this increase in salary than the pension.

Mr. FISH. But he can not stay unless designated for another term. He does get a pension. Why should he not go back? The man who is fitted to be Chief Justice of the United States would approach the matter in the proper spirit, that is, he would look the court over and he would say, "There is no occasion for giving this judge another term on the court of patent appeals. Here is a man in the eighth circuit. I think he would be a good man to put on the appellate court." A man that has been here six years, when he got back to his home, would be a trained patent judge.

Mr. BABKA. But, Mr. Fish, that would not be necessary, because the Chief Justice could reappoint him.

Mr. FISH. Yes.

Mr. BABKA. And would you not then be doing just the very thing we want to get away from?

Mr. FISH. But he would not do it.

Mr. MACCRATE. Is there not that tendency, when a man has made good as a judge in a particular line, to throw everything at him in that particular line?

Mr. FISH. I do not think you can call that anything more than a tendency, and as long as it stays a tendency it is all right. I can imagine a man so good on the court of patent appeals that the Chief Justice would say, "I can not let that man go." On the other hand, I can not help feeling that the Chief Justice of the United States would say, "The spirit of this law is circulation, and this man, who has been a very good man on the court of patent appeals, shall go back to his circuit, and I will put a new man in his place."

Mr. MACCRATE. Have you found in your experience before the circuit court of appeals that in most patent cases the same judge writes the decision?

Mr. FISH. No.

Mr. MACCRATE. Or do the judges diversify?

Mr. FISH. They diversify right along. I know of one circuit where one of the judges pretends to hate patent cases, one of the finest men in the world, but he presided in one of my cases and at the end he said, "Mr. Fish, strange as it may seem, I understand what you have been saying. It is an easy case, and I can write the opinion." And I do not know of a Federal judge in the circuits in which there are patent suits to any amount who has not written patent opinions.

Mr. MACCRATE. Away from that subject, do you have any idea about a statutory limitation as to the percentage that either the

capitalist or the attorney should get for services rendered or money advanced?

Mr. FISH. I do not know of any such practice and see no ground for a statutory limitation.

Mr. MACCRATE. Do you believe there should be a statutory limitation?

Mr. FISH. I do not think that the patent bar does things in that way. I am sure that inventors need no such protection.

Mr. MACCRATE. There is an impression among certain people that the inventor of a patent, as a rule, does not get much out of the invention.

Mr. FISH. About that I have much real knowledge, and I venture to deny the proposition. Take it by and large the inventor gets well paid, I mean the individual inventor, sometimes in one way and sometimes in another. He gets well paid, and unless he is an eccentric he is generally satisfied. You must not forget that the very qualities that make a man an inventor are the qualities that make an eccentric. Men imagine that they have made an invention when they have not made one; they often greatly exaggerate the utility and value of their achievements. You must not also forget—and I refer to the present commissioner and the ex-commissioner for verification—but my personal view is that not one patented invention in ten is worth making, and that is the reason why many of them are not a success. I have heard it said and believe that four out of five things that are patented to-day are for worse ways of doing something that is well done already. The man that makes that kind of invention does not recognize that truth at all, and charges to others the failure of inventions which really fail because they have no inherent merit. Once in a while a man makes infinitely more out of an invention than he has any right to. I have in mind now a little invention that the inventor ought to have made about \$10,000 out of, and he is getting out of it \$30,000 a year, and will for 10 years, because it happened to be a little device that is used in a very large number of machines. On the other hand, other people do not get enough, do not get what their invention is worth. None of us gets paid in this world according to our deserts. A great many do not get as much as they ought, and some get a great deal more. It is so with patents, but when you come to analyze that matter, when you take into account the fact that thousands of inventions are of no earthly consequence, and when you take into account the difficulties of the situation, I am willing to stand up for the proposition that inventors as a class get well paid in this country.

Mr. BABKA. You said before that one of the purposes of patent law was to develop the industry so that the people would get the benefit as well as the patentee?

Mr. FISH. Absolutely.

Mr. BABKA. Is it not a fact that under our present system the development of the industry is retarded by reason of the fact that certain interests buy patents and keep them off the market?

Mr. FISH. When you come to look into that you will find it is just the other way. There is no real foundation for that charge.

Mr. BABKA. I have been told that, and I wanted your opinion.

Mr. FISH. There is no foundation to that whatever. You must not forget that a proposition like that, even if it is true, might not



mean the retarding of business, it might mean the development of business. Let us put a hypothetical case. I have a patent for doing a certain thing. That is fine, and the public wants the invention, and I am putting it out at its proper price supplying the demand and doing a real service. Another comes along with an invention that competes with mine, which the public does not need and the introduction of which will lead to inefficiency and confusion. What harm is there in my buying that patent and making only one or the other of the devices? One is sure to be better than the other, and the inferior device might well be suppressed. I may myself patent a half a dozen devices for doing the same work, but it is in the public interest that only the best should be marketed.

There is one thing about patents that I would mention, because it is not often recognized. Most of us have no idea how important the patent system is in exciting invention. That is to say, there are any quantity of men in this country that look through the Official Gazette every week to see what has been patented. There are any quantity of men in this country, in one field or another, who know about new inventions in their field as they are made and introduced, who watch everything that comes along, and whenever there is a new thought it stimulates them to invention. Because of this stimulus many inventions may grow out of a patented suggestion that may itself be worthless, most of them, perhaps, of no value, but some of them may largely promote the progress of the arts.

That is one thing about the patent system of the greatest value, that each invention incites others to invent and improve. And the invention that was the stimulus may be worthless. Those that follow may perfect the first or may involve new ideas that never would have been thought of except for the first.

There are injustices and there always will be injustices in every phase of human life, but the patent system works out, by and large, fairly for the public and fairly for the inventor; but every precaution should be taken that the law itself and the machinery of the Patent Office and of the courts shall promote justice and suppress injustice, and the first thing to do is to organize the Patent Office so it will do the best possible work, no matter what it costs, because millions might be wasted or wrongly distributed because the Patent Office made mistakes. Nobody can figure what the amount is, but it must be large. And the court system should be so organized as to stabilize the situation as to all patents that get into litigation, so that the patentees and the public will know as soon as possible exactly their respective rights. It is important that exact justice should be done as far as possible, but it is of equal, if not of greater, importance that the rights in questions should be settled and known as soon as may be.

Mr. McDUFFIE. In short, what is the trouble with the Patent Office now?

Mr. FISH. You should ask these gentlemen here for details [referring to Commissioner Newton and ex-Commissioner Ewing]. I have not been inside of the Patent Office more than once or twice for several years.

Mr. McDUFFIE. You said some things ought to be righted, and now I want to know what they are.

Mr. FISH. I can tell you some things. In the first place, the good men can not stay in that Patent Office, because they can not afford to.

Mr. McDUFFIE. That is a question of salary?

Mr. FISH. That is a question of salary. With all deference to this commissioner and the excommissioner, they have had men in there whom they could not discharge—I do not know whether the civil service keeps them there or not—that ought to have been discharged, but they could not fill their places very well, because you can not get an expert for \$2,700 a year. Good men will not stay at an inadequate salary. The working conditions were at one time bad. They may be bad now. The office did not have an adequate filing and record system so that the Patent Office examiner could find what there was in the prior art. There has been a good deal of money spent on that within the last few years, and I am not familiar with present conditions. But fundamentally I think that what we need in the Patent Office is a better class of men that will stay there, and then I also think they need more supervision, which I know Mr. Commissioner Ewing and, I have no doubt, the present commissioner will agree to.

Back of it all, gentlemen, there is a very warm spot in my heart for your Patent Office. Considering the tremendous difficulties under which it has labored, I think it is one of the most creditable bureaus in the United States. Although I do not act as attorney in taking out patents I have been in position to know what it has been doing for a great many years. The office has been honest, the men have worked hard and have been loyal and faithful; but the Patent Office is not as good as it should be, and it is a matter of vital consequence to the people of this country that it should be just as good as it can be.

Mr. McDUFFIE. I agree with you that they ought to have some relief, as far as I am personally concerned, because I do not think a man can live in Washington at those salaries; that is, the kind of man you ought to have; but, in short, as I understand it, your idea and the idea of the patent commissioner is—I have not heard him, but I assume it is that they need better quarters, first, they need a department unto themselves, that can manage their own affairs.

Mr. FISH. They need that because I think they will get the other things if they get that.

Mr. McDUFFIE. If they get that they will get the other things. That is of prime consequence, and a general increase in salaries to get more efficiency, and, third, another court or a court that will devote its whole time and attention to patent litigation, thereby expediting the cases on appeal or the questions litigated as to the issuance of patents.

Mr. FISH. And settle that once for all.

Mr. McDUFFIE. And settle that once for all, and do it quickly.

Mr. FISH. And do it quickly.

Mr. McDUFFIE. That, in substance, is your contention?

Mr. FISH. All those matters are important and in my opinion necessary. I could tell you other ways in which the patent system and the Patent Office could be improved, but if you get the Court of Patent Appeals you will then have the basis for the establishment of a patent system; you will then have an authority which will always

be studying the situation and bound to tell what needs to be done. That is another reason why I think that the establishment of a court of patent appeals is the great thing that is needed.

Mr. McDUFFIE. Would you care to file a brief with the committee detailing some of these other things?

Mr. FISH. Some of the other things I have in mind?

Mr. McDUFFIE. Yes.

Mr. FISH. I doubt the wisdom of so doing at this time. We have been over this ground with the utmost care, and we have made up our minds that the things we have suggested, the three that are fundamental are of prime importance and should be dealt with now. The fourth, which is the matter of damages and profits to be recovered, is very important and ought to be enacted, although it is not of as fundamental a character; but I do not think that the committee ought to be burdened too much with other suggestions at this time.

Mr. McDUFFIE. You say this has been indorsed by the American Bar Association?

Mr. FISH. The court of patent appeals?

Mr. McDUFFIE. Yes; the court of patent appeals.

Mr. FISH. Yes, sir.

Mr. McDUFFIE. Who else?

Mr. FISH. The National Association of Manufacturers, and I have not the slightest doubt that we can get every business association in the country to indorse it.

Mr. MacCRATE. Have the circuit judges been questioned about this?

Mr. FISH. Judge Mayer has written a letter, and Judge Hand, I understand, is willing to come here to support the measure. This movement for a court of patent appeals was started in 1898, and many of us a great deal of work on it for years. Many Federal judges approved the bill and the only objection any of them ever raised, as far as I know, was, in some instances, the personal objection on the part of an individual judge that he might not want to come to Washington.

(Whereupon, at 12.30 o'clock p. m., the committee adjourned to meet to-morrow, Thursday, July 9, 1919, at 10.30 o'clock a. m.)

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COMMITTEE ON PATENTS,  
HOUSE OF REPRESENTATIVES,  
*Washington, D. C., Thursday, July 10, 1919.*

The committee assembled at 10.30 o'clock a. m., Hon. John I. Nolan (chairman) presiding.

Present: Messrs. Nolan (chairman), Vestal, Jefferis, Babka, McDuffie, and MacCrate.

The CHAIRMAN. Mr. Prindle, the committee is ready to hear you now.

**STATEMENT OF MR. EDWIN J. PRINDLE, SECRETARY PATENT COMMITTEE, NATIONAL RESEARCH COUNCIL—Resumed.**

Mr. PRINDLE. Before resuming the remarks which were interrupted yesterday, in order that Mr. Fish might make his train, I wish to say that I can not accept the credit which he gave me of



preparing the report of the patent committee of the National Research Council alone. He implied that I had prepared it. It was the work of the committee; and Mr. Fish himself, as well as Mr. Ewing and Dr. Baekeland, did a very large amount of the work, as well as myself; and I do not want to have any credit which does not belong to me.

I wish also to state that I am authorized to appear as the representative of the patent committee of the Engineering Council, representing 35,000 engineers, and as the representative of the American Chemical Society, representing 14,000 chemists.

Mr. Fish treated our program as a whole so ably that I shall not attempt to treat it as a whole, but will only speak of certain aspects of it.

I wish, first, to emphasize the importance of the patent system in general to our country. The patent system is one of the primal factors in the transformation of our country, in but a century and a quarter, from a few poverty-stricken Colonies to the wealthiest and the principal manufacturing country in the world. Natural resources alone will not account for it; for they are to be found in other countries. Neither will exceptional inventiveness account for it, because we are all directly from Europe or the descendants of those from Europe, and we have no natural exceptional inventiveness as compared with Europe. But the inventiveness which is so common in America is due to the incentive held out by the American patent system; and it has been a gradual growth through the generations, due to the belief that if a man made an invention he would receive an adequate reward.

Take, for instance, the immense productiveness of our farms. That is due to the American inventor. Before our patent system was introduced farming was conducted very largely by manual operations, but the American inventor produced the efficient plow, the gang plow, the cultivator, the horse rake, the mower, the reaper, the self-binding harvester, and the thrasher; and he transformed farming from an industry of manual operations into one which was largely conducted by labor-saving machinery.

If it were not for this machinery which the American inventor produced, we could cultivate only a small fraction of the immense area which we now cultivate. Only the land which is near the markets could be tilled if it were not for the means of handling crops and for transporting them which the American inventor has largely produced. The labor-saving agricultural machinery is almost wholly an American invention. The crop-handling machinery is almost wholly American. The transportation, of course, is not wholly American, but Americans have contributed very largely to it.

The American inventor has provided means for communicating information as to supply and demand, so that those violent fluctuations in prices which used to jeopardize and frequently destroy the profits of the American farmer are largely eliminated, and the means for storage and refrigeration which he has provided have rendered the raising of perishable crops profitable at a great distance from the market and has prevented those crops from being valueless by happening to reach a market when that market was already well supplied.

Thus, in a century and a quarter the American inventor, due to the stimulus of the American patent system, has transformed an industry which for thousands of years was unprogressive and uncertain and not very profitable into one which is progressive and profitable, and, on the whole, is conducted on a manufacturing basis. It is remarkable that for thousands of years that industry should have stood still, and then suddenly, in a century and a quarter, have been transformed in this way; and the only thing you can put your finger on to account for it is the American patent system.

Think where Europe would be to-day for want of food if it were not for this work of the American inventor. Millions would be starving. And think of the wealth which it means to our country that the American farmer has been able to raise this food which is so necessary to Europe, as well as to us.

Our manufacturing is even more the result of American inventing. The American manufacturer, through the production of new and improved labor-saving machinery and improved products, has been able to meet foreign competition while paying labor wages which enabled it to live on a scale that is far above the average in other countries.

But the public became so accustomed to the continual production of important inventions that they regarded it as a matter of course, and in nonmanufacturing districts they came unconsciously to think that these inventions would have been produced anyhow, without the patent system, and that patents only imposed an uncomfortable and unnecessary tariff on things which they would otherwise have had at a lower price. They did not realize that but for the incentive which the patent system held out the inventions would not have been produced, and in many instances could not have been produced, because of the expense involved, and that these inventions are only tied up for 17 years, after which the inventions are added to the fund of public knowledge for all time.

The result has been that the Patent Office, which is one of the most profitable activities of our Government, and which has never cost a dollar of taxation, has been neglected and has been given unwilling and scanty support, and that the rewards to the inventor have been rendered unnecessarily uncertain and meager, so that those who have to do with patents have come to realize that something has got to be done. The patent system does not call forth the faith of the inventor to-day as it used to, and he is in doubt whether it is worth while to invent, and many men do not invent because of that doubt. And now we have got to remove that doubt by seeing that the inventor does get a proper reward, and do that not so much to reward the inventor, although I sympathize with him deeply, as because it is beneficial to our public interests.

The immensely important part played by inventions in the war has also shown the advisability of increasing the incentive of the inventor to invent. If it were not for the inventions of Americans and those of the allied countries which checkmated the expedients of the Germans and enabled the Allies to hold their armies and navies in check until the Allies could get ready to whip them, as they finally did, the war would not have been won by the Allies; it would have been lost. We do not realize to-day the immense part which inven-

tions have played in the war, because they have been kept secret for military reasons.

Take, for example, the barrage of the North Sea, which hemmed in the U-boats and restricted them to certain narrow outlets where they could be watched to a considerable extent. That was an American conception and due to American inventions and carried out by Americans. The winning of the battle of Falkland Islands by the British fleet was vitally aided by the use of a gyroscopic compass invented by Mr. Elmer A. Sperry, who will speak to you later. The magnetic compass of one of the British ships was out of adjustment and the getting there of the ship in time to meet the Germans was due to the fact that a gyroscopic compass was supplied and saved the considerable amount of time which would have been required to adjust the magnetic compass. This has been recognized by the British Government in a citation.

I merely mention these as one or two specific instances; but the instances are without number where American inventions played important parts in the war.

The effort of the allied countries to meet the onslaught of Germany has caused them to rise to the tiptoe of efficiency in everything connected with manufacturing; and we can be certain that in their efforts to rehabilitate themselves they will do everything in their power to increase the incentives to their inventors, so as to not only meet our competition but to excel it if they can and that of their neighbors.

These things make it necessary, vitally necessary, that we consider whether we can not increase the incentive to the American inventor to invent; and the way to do that, of course, is to give him a more certain and a larger reward.

I doubt if this committee fully realizes the importance of the subject of which it has jurisdiction. There is no committee of the House of Representatives which has under its jurisdiction a subject which is capable of producing more of wealth and of welfare and of comfort than this committee.

I wish now to make a few remarks about the proposed single court of patent appeals. To induce inventors to invent, the cost of enforcing their patents must not be too high. This is a practical matter; it is not merely a matter of sentiment or of justice. It is a practical matter of bargain and sale. If you do not give a man enough inducement, you do not get what you want him to do for you.

The cost of litigating patents is so great that only the largest companies can stand the expense of a full-fledged litigation carried to the extreme limits. The smaller company hesitates to undertake even a litigation which they think will only go to ordinary limits; and the individual inventor can not undertake any litigation at all, as a rule.

This cost of enforcing patents deters the making of inventions, to a very considerable extent. Many men will not buy patents because of this certainty and expense of litigation; and it is of no benefit to the inventor to invent and get a patent if he can not make money out of it. Ordinarily, he must sell the patent, or he must interest capital, or he must get some large concern to manufacture it, because when he has obtained the patent he has only started. He has got an



invention which looks well on paper, but ninety-nine times out of a hundred it requires expensive commercial development before he can sell one of his articles at a profit, and before he can sell a man one a second time. So that he must be in a position to interest capital.

This ability to litigate a patent in nine different circuits, or several of nine different circuits, is a means of oppression, if a plaintiff wishes to use it or a defendant wishes to use it; and the formation of a single court of patent appeals would take that weapon out of his hands. The litigating of a patent through several circuits takes a long time, as was said yesterday, sometimes five, six, or seven years, and while that patent is in doubt nobody wants to improve on the subject of that patent.

Mr. Bell invented the telephone and he is entitled to credit as the inventor of that great instrument. But the instrument in which he embodied his invention was so imperfect that it would only work under the most favorable laboratory conditions, and it required the inventions of many others to make the telephone commercially successful. Now, while the patent is being litigated in several successive circuits, one who could make improvements may be morally certain that that patent is invalid and should be upset, and will be upset, and yet he will hold off, because if he takes out an improvement patent he can not use his improvement while the patent that is being litigated is alive. Suppose he makes an improvement two years after the original patent is issued; then, if the original patent is sustained, he could not use his improvement for the remaining 15 years of the original patent, and he would have only two years of his improvement patent which were of any value.

A single court of patent appeals would settle that matter early, and the improvers would get to work to improve the invention which had been litigated. Then, too, a manufacturer who, if the patent is invalidated, would have a right to manufacture the invention which is being litigated frequently does not go into it. He hesitates to build up a business which may be destroyed by an injunction at any day. The public, therefore, during the years while the litigation is retained in these various courts of appeals, loses the product which the manufacturer would have put out if that patent had been held to be invalid earlier.

Seventeen years is none too long for the best invention. As I have said, when a man gets his patent he has only begun. It frequently takes many years of development to get that invention on the market. It frequently requires the making of auxiliary inventions, the need of which he did not foresee; of special machinery and manufacture, or of processes, and if he is going to have his patent upset he or the manufacturer can not afford to go through all of that expense. So they wait frequently until this litigation is terminated; and it leaves a very short period, in many instances, for them to reap, and they do not get free of the expenses which they have incurred, in some cases, before the patent becomes public property.

A single court of patent appeals would overcome that difficulty by determining the standing of the patent earlier.

Then the judges from different parts of the country look at patents in different ways with regard to the question of sustaining them or

overturning them. In a nonmanufacturing district the feeling is apt to be, as I have said, that patents are an unnecessary tax, and the inclination of the judge is to resolve doubts against the patent and upset it—not that he consciously does this, but because that is the natural psychology of that situation.

On the other hand, in a manufacturing district, the judge often sympathizes with the inventor and wishes the benefits of patents, and he is inclined to sustain them. And so we get decisions looking in different ways from different circuit courts of appeals. If we had a single court of patent appeals, the judges from these various districts, with these varying inclinations and their differing personal equations, would come on the same bench, and we would get a uniform holding that would be an equitable adjustment of all these factors.

Now, I wish to say a word as to the fear that this court of patent appeals would become narrow because its work would be restricted to patents. I think the gentlemen who fear that are seeing ghosts. These judges, as I have said, will come from all parts of the country, with different shades of opinion; and it is not like a single court in a single city, with three judges who never did anything but that one kind of work; but the tendency would be to resist that narrowing. And then the judges coming in succession, and only sitting, many of them, 6 six years or 12 years, and then going back, would tend to prevent narrowing. If that court ever did become narrow, it would be within the power of the Chief Justice and of the President to prevent a judge from sitting more than to the end of his then term, and that would bring in new blood and would offset any tendency to become narrow.

The Supreme Court used to be the single court of patent appeals of the United States; and it never was accused of becoming narrow.

On the other hand, one court of patent appeals would have a chance to become more proficient than nine courts of appeals, because it would have more contact with patent cases; and the judges in the United States courts say they have more difficulty in deciding patent cases than any other class of cases, because they are so foreign to all their previous experience.

The American inventor ought not to be under a greater handicap than the foreign inventors in this respect; and I know of no country where there are nine different opportunities to litigate the same patent; and in England, the litigation of a patent is a comparatively short and simple matter. There is but one trial and two opportunities for appeal; and the second one is not very often taken advantage of.

Mr. MACCRATE. Is not the greater territorial extent of this country the reason why we have nine courts of appeals? In England, you can go from London to Liverpool in five and one-half hours.

Mr. PRINDLE. Yes; it undoubtedly is. But there is no practical reason, as I view it, why the American inventor should suffer from that condition. There is no substantial benefit to the country in doing that, and therefore it should be eliminated, because it puts this really intolerable burden on those having to do with patents.

Mr. MCDUFFIE. As I understand, one of the chief purposes of the establishment of this proposed court of patent appeals is to expedite the disposition of patent litigation?

Mr. PRINDLE. Yes, sir.

Mr. McDUFFIE. This bill provides that the members of that proposed court shall be drawn from the various United States circuit courts of appeals and district courts. Now, it is a known fact that nearly all of our circuit courts of appeals and district courts are already overcrowded—their dockets are overcrowded. How, then, is it expected that they can expedite the disposition of this business, when they are behind with the business already imposed upon them?

Mr. PRINDLE. Well, this business we expect to take from the courts of appeals in the nine circuits, and transfer it to this one court. This court can do it expeditiously, and it will relieve those courts of that much work; and even if you have only the same number of judges in the total number of courts, I believe you would get the work done more quickly, because one court which devotes itself to this line of cases would become more efficient and would be able to handle the cases more rapidly.

Mr. McDUFFIE. But how about the neglect of their regular line of business when they are called upon to perform this service?

Mr. PRINDLE. But you see you would be relieving the court they left of the appeal in these cases; so it seems to balance up, or nearly so.

Mr. McDUFFIE. I know; but the judges would be withdrawn entirely from their courts for definite periods.

Mr. PRINDLE. Yes, sir.

Mr. McDUFFIE. That is, for a term each year, which will probably extend for several months?

Mr. PRINDLE. Yes; it would undoubtedly extend through—

Mr. McDUFFIE (interposing). But what provision is made for the continuance of their own courts during those absences?

Mr. PRINDLE. The court of appeals which they leave, supposing they do leave a court of appeals, can call one of the district judges to sit on that court of appeals, or a judge from a neighboring circuit who is not busy. In that way they help each other out now. In New York they are being helped out in that way now by judges who go there and aid them, and, as I say, in the court of appeals they also have the district judges to come and sit with them.

Mr. McDUFFIE. Yes; I have had a good deal of opportunity to observe those changes, and I think it always results in a continuance of litigation in the court from which the regular judge is drawn.

Mr. PRINDLE. But suppose it did involve five or six or seven new judges, it would be very well worth it. It would not only save expense to the inventor, but it would save expense to the public and to those who litigate patents. It would save expense in the shortening of the work in that court that is becoming more proficient. I think that court could do the work more quickly, and the total expense of such a court as this, if you create it entirely anew—I mean if you add that many judges to the number of United States district judges—will be negligible, I think, as compared to the results to be obtained.

Mr. McDUFFIE. I may state that I am very favorably disposed to the establishment of a United States Court of Patent Appeals; but I am discussing the personnel of that court. What is the necessity of drawing these judges from other United States courts, which, as



I say, are already overburdened with work, instead of establishing a court independent of these other courts?

Mr. PRINDLE. Well, you see, it gives an opportunity to draw judges who have shown themselves to be proficient in patent cases, and it gives an opportunity to change the judges to prevent the court from becoming narrow, and those are very desirable factors.

Mr. McDUFFIE. Well, those same things could be provided for by the appointment of other judges; they could be appointed for the same period of time, and they could be appointed from all sections of the country.

Mr. PRINDLE. What do you mean by "other judges"?

Mr. McDUFFIE. I mean to appoint members of the bar, or ex-judges, or United States district judges, or judges of the court of appeals, but when they are appointed to this court have them resign from the position which they now hold.

Mr. PRINDLE. But then they become permanent judges of this court, and there is that danger that the court will become narrow; and it will be a real danger, I think, under those circumstances.

Mr. BABKA. Is that danger more important than it is to have efficiency?

Mr. PRINDLE. Well, that is opposed to efficiency; that narrowness would be inefficiency.

Mr. McDUFFIE. Well, this is a day of specialists; and I think the more thoroughly familiar the judges become with patent law the more efficiently they can perform their services, just as it is in any other line of legal work.

Mr. PRINDLE. Speaking of the amount of work, I should have stated that the single court of patent appeals, by reducing the number of litigations in patent cases, would reduce the total amount of work for the courts in general; that is, there would be less litigation with this single court of patent appeals.

Mr. McDUFFIE. Yes; but it will disarrange the general dockets and the disposition of business to have them absent, even if what you say is true. The very purpose of this proposed legislation is to expedite litigation and to secure speedy disposition of these cases. Now, the courts as constituted at present have been unable to do that.

Mr. PRINDLE. That is true.

Mr. McDUFFIE. Now, instead of creating a new tribunal to perform that service and to accomplish that purpose, you are only proposing to put the burden of it upon certain judges for certain periods of time. After all, the present courts of the country are required to perform this service as well as the other services which they are now performing.

Mr. PRINDLE. Well, when a member of the bench of one of the other courts was assigned to this court somebody would have to be put in his place for the six years; that is, he would not be able to do the work there and here too.

Mr. McDUFFIE. Well, under the Constitution a man can not be appointed a United States district judge or a member of the United States court of patent appeals for a specific period; he must be appointed during good behavior.

Mr. PRINDLE. Yes; but he would merely be assigned to this court for a period of six years, and he would still be a United States district court judge.

Mr. McDUFFIE. But you would have to fill his place with somebody else; and when you appointed a man to take his place that would simply leave a vacancy where this last man came from.

Mr. PRINDLE. You would necessarily add several judges to the whole corps of United States circuit and district judges to allow for those five or six who would be here all the time, and you would not necessarily appoint a particular man to fill the place of a particular judge who had been assigned here to Washington.

That question of whether judges should sit all the time here in Washington is a very important one. My personal opinion, after a great deal of thought on the subject, is that it would be unwise; but it is within the power of your committee, of course, to make any recommendation you wish. If judges who were specialists could be appointed in that way for life to a single court without becoming narrow, I think it would be fine—it would be a great advantage—but my personal view is that they would become narrow.

Mr. VESTAL. May I ask a question, Mr. Chairman?

The CHAIRMAN. Well, I think after he answers your question we will go back to our informal understanding of yesterday, that each witness be permitted to make his statement and then be asked questions. I believe that will be in the interest of expediting business. But go ahead and ask your question, Mr. Vestal.

Mr. VESTAL. The question I wanted to ask was this: It is certainly not the intention of this bill to do this with the present number of judges, and there is not any question but that if it becomes a law it means an increase of the judges. You could not take men off these other benches and bring them here and go ahead and do the business with the same number of judges that we have now. It necessarily means an increased number of judges, as I look at it.

Mr. PRINDLE. There would be a decrease of the work of their circuit and a decrease of patent litigation in general. Somebody would have to take the place of that man when he was needed, and sometimes it would be a man from one circuit and sometimes it would be some other judge; but his work, to the extent that it existed, would have to be kept up while he was here, and it might involve an increase in the number of judges. I do not believe that we could tell about that without trying it; but I do not think that is any objection which should prevent the establishment of such a court.

Now, speaking of the bill to make the Patent Office independent (H. R. 5011). Patents were first granted by George Washington and Thomas Jefferson and the Attorney General personally, and you will find patents in existence to-day bearing their signatures. Then, soon after our Government was established, the Patent Office was created and made a part of the State Department. In 1849 it was transferred from the State Department to the Interior Department, because it had no relation to the work of the State Department, and the Interior Department was formed to be what was called an orphan asylum for those bureaus which did not well fit in with the regular standard bureaus of the Government. The Patent Office has never fitted into the Interior Department any more than it did into the State Depart-

ment. There is absolutely no relation between its work and that of any other bureau of the Interior Department. All the other bureaus are clerical, while the work of the Patent Office is scientific and legal.

A Secretary of the Interior has never been chosen within my observation of 30 years for any qualifications relating to patents, and he never has had any. He has never had any responsibility for the Patent Office. If the Patent Office did anything that was blameworthy, the Secretary of the Interior would not be blamed at all; it would simply fall on the Patent Office. He does not help it in any way. The Secretary of the Interior has less control over the Patent Office than over any other bureau. He has no control over the grant of patents either on a question of the merits or of procedure. There is no appeal to him on those, and there are appeals to him from all the other bureaus on their work.

He does not understand the needs of the Patent Office at all; and so when the Patent Office asks for appropriations he is in no position to say whether the items should be granted or not, and the tendency is to treat the Patent Office as one of a family of children and treat them all alike; that is, treat the scientific and legal duckling like the other chickens, in order to keep peace in the family.

Mr. MACCRATE. Do the ducklings and the chickens go together? [Laughter.]

Mr. PRINDLE. They do for a while, but after a while they need different treatment. He does not know the kind of work they are doing, and he does not know how much force they need. He does not know that they need such a thing as a classification of patents. He does not know what the scientifically and legally trained men are paid in other bureaus of the department, and he does not know what these men should be paid. He does not know, for instance, that when an examiner is put in charge of a particular class of inventions he should be sent out into that industry to learn what those inventions really mean in practice, so that when he gets an application for patent he can understand it readily and he can understand the significance of things. The examiner does not know whether the inventor is merely putting up a speculative, impossible proposition or one that is thoroughly practical, or whether he is putting up a distinction which is of no significance and what we call a "paper distinction," or whether he has made a slight change which is a fundamental improvement in the art.

The Patent Office has the sum of \$500 a year to provide for those trips for over 400 examiners.

The Secretary of the Interior does not know, for instance, that the Patent Office is away behind in scientific books. The examiners are not provided with books to keep them up-to-date in the art that they are examining; they are not provided with books sufficient to tell them what has been done before this inventor came in; and they ought to know that, because if they can find a description in any book which was published before that inventor made his invention, that description is a bar to the grant of a patent to him.

The Patent Office library is away behind in the books they should have; and the examiners should have the books relating to their particular arts in their own divisions. The examiners are supposed to act under the decisions of the United States courts; and yet they have



not copies of those decisions. No copies of the Federal Reporter coming out weekly, with all the Federal decisions, including the patent decisions, are provided, as they should be, one set for each examining division.

The separation of the Patent Office from the Interior Department would enable these propositions to be considered on their merits, and Congress would be inclined to treat the Patent Office differently, just as it does the other independent bureaus of the Government. When it is considering the salary of a scientific man in the Army or the Navy, it considers it on a different basis from what it does when the proposition comes from the Patent Office, because the Secretary of the Interior is between the Patent Office and Congress, with his power of approval or disapproval.

To make the Patent Office independent would increase its dignity, and therefore increase the attraction to men of ability to go in there and make a career. As it is now, they feel humiliated because they are not paid salaries commensurate with other men who went through college with them—who have no more ability than they, no more training, and no more important work; and to make the Patent Office independent would make it very much easier to get and keep a high grade of men.

There is no need to consider any great extra expense if the Patent Office is made independent, because the same building can be used, and the same personnel, until some day when Congress will provide a suitable building, as it should. But merely making it independent has nothing whatever to do with any increased expense on that score.

Now, speaking of the bill to increase the force and salaries in the Patent Office (H. R. 7010), the force of the Patent Office is entirely insufficient. There are approaching a million and a half United States patents, and several million foreign patents, as well as innumerable books and publications to be examined in order to determine whether an applicant for a patent has really made a new invention.

Without classification, it would be like asking them to give a certificate that in a 10-acre lot there was no four-leaf clover with a red tinge on its edge. Theoretically, the only way they can determine whether an invention is new is to examine all of those patents and books, but by classification, that can be reduced to a practical proposition.

The Patent Office, however, has classified only about one-half of its own patents, and very few of the foreign patents and books and publications; and it needs a larger force so that it can classify those patents and books. It also needs a larger force so that it can make the examinations more thorough after the classification has been made, because, as it is to-day, they are forced to make searches which are restricted away below what they know those searches should be.

The Patent Office examining force is a body of highly conscientious men, and they desire to make the examination of every application thorough before they pass that patent out. But to-day they are under pressure; and one of the officials of the Patent Office gives a very considerable amount of time to forcing them to act on applications and pass them out at a certain rate, so as to keep the Patent Office from becoming swamped, when he knows and they know that it is taking grave chances on the validity of a patent to

do it; but they have no choice. They should have a sufficient force, so that this work could be made thorough.

An invalid patent is a serious matter. It involves the loss of money invested on the faith of its protection; it involves the loss to the patentee, or those who buy from him, of the expense of adjudicating or developing it. It involves the loss to the defendant in a suit under a valid patent of the expense of defending the litigation; and that expense may be enormous. It involves the loss of the expense of the Government in running its courts to consider and decide those litigations. It delays improvement, as I have pointed out—improvement on the one hand and on the other hand the manufacture of the article, until the patent has been declared invalid.

And these things impair the incentive to invent. That is what we must keep in mind, that we must do for the patent system that which will induce the inventors to invent, because it is for that purpose it was established.

Patents are under such universal doubt that almost nobody who knows anything about patents buys them to-day, without having a firm of attorneys in whom they have confidence make a complete search, going over the ground that the Patent Office is supposed to have gone over; an exhaustive search, that takes days and weeks, and sometimes months, to determine whether that patent is valid.

The cost of making this search is often prohibitive; that is, an individual often will not buy a patent, or a firm or corporation will not buy a patent, just because of that expense. If the Patent Office had a sufficient force, I apprehend that they could make the average of invalid patents so low that many transactions in patents would often take place without these costly searches.

A few words about the salaries of the Patent Office: In 1848, the salaries of the primary examiners were fixed at \$2,500 a year; and I have been informed that they were then intended to be and were the same as those of Members of Congress. Since 1848—in 71 years—they have had the enormous increase of just 10 per cent.

And you know how many times the cost of living has doubled in that time. Examiners with a family have so much difficulty in living on that salary that one of the examiners told me that, although he is a college graduate, and had to be so or its equivalent to get his position, he is unable to send his boys to college; and he is a man of the most careful habits.

That is not right. It is not right to ask a man to get into any such position as that.

There is this peculiar danger in the situation: When a man comes out of a college and enters the Patent Office, he gets a salary that is comfortable for a bachelor; but he does not look ahead and realize that if he stays there and marries and has a family, the utmost he can get will be insufficient for the support of that family. And so he gets unconsciously into an impossible situation. He may like his work, he may like the career, and not want to leave; but he is constantly tempted by the offers which manufacturing concerns and law firms outside make to the men in the Patent Office to come out and work for them. The Patent Office is an excellent training school and saves money for the people who want men of these qualifications; and when

they come out they get the salaries, or better, that the committee has recommended in this bill to your committee.

The salaries which we have recommended are not higher than those for similarly trained scientific men in the Army or the Navy, or in the Attorney General's office, or in other departments of the Government; and I know of none of those men who are required to be both scientifically and legally trained.

It used to be said that the entrance examination of the Patent Office was the stiffest civil-service examination under the Government; and so far as I know it is still. And yet these men get much less pay than other men who pass less difficult examinations.

It is not good business to pay a man so low that he is not able to live as a man of his class should live, with a peaceful mind. If his mind is occupied with the problem of making both ends meet, he can not always have his whole mind on the work he is doing. And one mistake in overlooking a patent which should have prevented the grant of a patent on the application he is examining may cost more than the total increase which we recommend in this bill. One moment's wavering attention as an examiner in turning over copies of drawings of previous patents may result in such a mistake. A man who is doing such important work as that should have a reasonably care-free mind. If I were asking for justice for the examiners, I might say, that in view of the great value of the property which they help to produce, the injunction in the Old Testament applies; "Thou shalt not muzzle the ox that treadeth out the corn."

But I am not asking for justice for them so much as that they shall be paid properly as a business proposition, because paying them so low does not give the public the results that were intended to be obtained by the establishment of the Patent Office. A continuing contract which is bad for one party is not good for either party.

I earnestly hope that this committee will recommend the increases in salaries which are stated in this bill.

Now, a few words on the proposal to give the courts power in proper cases, to award a reasonable royalty, or other form of general damages, instead of requiring that the actual amount of profits or damages to which the patentee is entitled shall be proven.

Mr. Fish seems to think that this amendment—of which I may say that I made the first draft—does not intend that when the court comes to award general damages it shall be done on testimony; that the court itself shall simply estimate or make a guess, so to speak——

The CHAIRMAN. Let me interrupt you just a moment to say this, so that you can regulate your time accordingly: This committee will take a recess at five minutes to 12; and I think we would like to ask you a few questions before the recess.

Mr. PRINDLE. Yes; I am almost through, sir.

The amendment says that the court may, "after due proceedings had," award such general damages; that is, men in the trade would be produced to testify what is a customary or reasonable royalty under those circumstances, or what is a proper lump sum. And then the court would take the conflicting evidence on both sides and determine what was a proper sum and award that. But it would not be a mere guess without information.



My reason for wanting that amendment to enable the patentee to recover without having attempted to prove profits or damages is this: That the cost of attempting to prove profits or damages in many litigations would be more than the possible recovery; so that it would mean a denial of justice.

And I call attention to the fact that Mr. Fish was the only member of the patent committee of the National Research Council who raised any objection to that amendment, and that the patent committee of the engineering council unanimously recommended the amendment as it stood.

I also call attention to Judge Mayer's letter, which I introduced in evidence yesterday, which approves this amendment as it stands. Judge Mayer has authorized me to speak for him; and he does not believe Mr. Fish's objection is well founded.

I believe that to enact that amendment would be to bring about one of the greatest increases in the incentive to the inventor that could be made, because to-day the patent system is reproached with the statement that the inventor can get an injunction, but he can not get any money. He hardly ever gets it now; but with that amendment he can almost always get a recovery of money damages when his patent is infringed.

MR. MACCRATE. Will that amendment not result in "strike suits" being brought?

MR. PRINDLE. Anything, of course, could be used as a handle for bringing strike suits. I do not know how that could be prevented. But it is within the power of the judge to give him the damages or not. This amendment simply says "may"; the judge may say, "I require you to prove actual damages." But if he suspects a strike suit, he would not give them.

MR. MACCRATE. The only thing is this amendment makes recovery easy; as something may be given without due proof; and therefore they may start litigation in the nature of a "strike suit" in order to get it.

MR. PRINDLE. I do not mean that they shall get it without due proof; I mean that the same evidence should be introduced as in any accident case. Suppose you had an accident case involving property; you would be asked to introduce proof as to the amount of injury.

MR. MACCRATE. Well, is there not the danger that Mr. Fish suggested yesterday, that the interpretation which he put on it—

MR. PRINDLE (interposing). That the court might?

MR. MACCRATE. That the court might adopt the interpretation which Mr. Fish put on it? He puts an interpretation on your provision here which would render almost unnecessary any evidence in the case.

MR. PRINDLE. The provision distinctly says, "The court may, on due proceedings had." "May" leaves it a matter of choice with the court, and the reference to due proceedings certainly requires evidence.

MR. MACCRATE. Well, would that render appeals more frequent, to see whether the discretion exercised by the judge was an abuse of discretion?

MR. PRINDLE. Well, you know it would have to be a very gross abuse of discretion that would make an occasion for a reversal—and

every accounting results in an appeal. This would not mean any more appeals. Accountings are so complicated that they always appeal them—I mean almost invariably they appeal them.

The CHAIRMAN. Have you completed your general statement?

Mr. PRINDLE. Yes; I am through.

The CHAIRMAN. I would like to ask you a question as to the bill for the creation of the Patent Office as an independent bureau: Have you found in your investigations that the Secretary of the Interior at any time has refused to approve the estimates submitted by the Commissioner of Patents for submission to Congress through the Secretary of the Treasury?

Mr. PRINDLE. I have found that he almost invariably, I think I may say invariably, did not refuse them, but pared them down.

The CHAIRMAN. Any more so than he did with the rest of the bureaus in his department?

Mr. PRINDLE. I believe so very strongly; but I refer you to Mr. Ewing and Mr. Newton, who will speak later, and they can give you personal information as to that.

The CHAIRMAN. I know; but you gentlemen prepared these bills; you must have made some investigation, and must have had some reason for your recommendations; somebody should have made an investigation for your committee before you stood so strongly for an independent bureau. There must be some good, substantial reasons for your action. I would like to know whether there has been any general interference on the part of the Secretary of the Interior with the work of the Patent Office.

Mr. PRINDLE. That is one of two reasons. I was an examiner in the Patent Office in the early nineties, and I know that every commissioner under whom I served, and those I have known since, have recommended increases which have been denied by the Secretary of the Interior.

The CHAIRMAN. Increases in what?

Mr. PRINDLE. The personnel and salaries; increases in the force and in the salaries in the Patent Office. And Mr. Ewing is a member of the patent committee of the National Research Council. He was the commissioner who asked for the appointment of that committee; and he also has made these statements in committee meetings, from his personal experience.

The CHAIRMAN. Did you know that while Mr. Ewing was Commissioner he drafted a bill increasing the personnel and increasing some of the salaries in the Patent Office, and that it was introduced and reported out by this committee?

Mr. PRINDLE. Yes; I did know that.

The CHAIRMAN. Did that have the approval or the disapproval of the Secretary of the Interior?

Mr. PRINDLE. I do not know about that particular bill, Mr. Chairman.

The CHAIRMAN. Now, I want to ask you in relation to the salaries in the Patent Office. Probably some other member of the committee will cover that independent bureau matter more than I have, but I will want to ask you one or two questions when you get through.

You spoke about the men who had been through college and who wanted to send their sons through college. I want to ask you how

you could justify the increases you suggest to the higher-paid officials in the Patent Office, with the provision contained in the bill for messengers at \$840 a year, assistant messengers at \$720, laborers at \$660, and examiners' aids and copy pullers at \$600 a year? Do you not think those men ought to have a chance to educate their children?

Mr. PRINDLE. Yes; I do. I think those salaries should be higher. But this bill did not attempt to cover that; we simply put those in as they were, to make the bill complete. But our committee was chiefly concerned with those who had to do particularly with patents. I certainly do think those salaries should be increased.

Mr. McDUFFIE. Mr. Chairman, will you permit me to make a suggestion? Mr. Prindle, for the information of this committee, I suggest that you or your committee procure and furnish to this committee a statement of the present personnel of the Patent Office, the number thereof, and the salaries received by them.

Mr. PRINDLE. Yes; we will be glad to do so.

Mr. McDUFFIE. In order that we may compare those with the suggested increases in personnel and salaries.

Mr. PRINDLE. I will be glad to do so.

The CHAIRMAN. And showing the proposed increase in each case.

Mr. McDUFFIE. Yes; specify the different offices and positions, the numbers now occupying those positions, and the salaries now received by each.

Mr. PRINDLE. I will be glad to do so.

Mr. McDUFFIE. And, Mr. Chairman, I suggest that that information be furnished before the hearings are printed.

The CHAIRMAN. Yes. If the gentlemen had been present yesterday when the \$3-a-day minimum wage bill was under discussion, they would have had some knowledge of the temper of Congress as to salary increases. That is why I asked the question as to why some consideration was not given to those receiving the low salaries in the Patent Office.

Mr. PRINDLE. I agree with you, heartily, that they are not receiving what they should receive.

(The statement referred to appears hereafter.)

Mr. MACCRATE. Just for information, I will ask you if those patents which were issued by George Washington and Thomas Jefferson were issued by legislation?

Mr. PRINDLE. Yes; and I might say, in addition, that they made no examination as to novelty; but when the patent system was changed so that the Patent Office made an examination to see whether the invention was novel, then the patent had *prima facie* validity; it was supposed to be valid. And that stimulated invention enormously. But now that it has become so doubtful and it is known that so many patents are invalid, it injures that standing of patents; and if we can again raise them to a point where they are almost always valid, it would stimulate invention just as it did before.

The CHAIRMAN. Do any members of the committee want to ask Mr. Prindle any further questions?



Mr. PRINDLE. May I quote a sentence from Mr. Ewing's speech at Atlantic City December 3, 1918, in which he said:

I am obliged to say, after four years' experience as commissioner, that the office gains nothing by being a bureau of the Interior Department, and that it is seriously handicapped by the connection; it ought to be an independent office.

Mr. Ewing will speak this afternoon, and you can ask him about that matter.

I desire to introduce Dr. L. H. Baekeland, who is a citizen of the United States, but was born in Belgium, and who is honorary professor of chemical engineering in Columbia University, a member of the Navy Consulting Board, and is acting chairman of the patent committee of the National Research Council, Dr. Durand having been the chairman until he went to Europe. Dr. Baekeland is a very eminent chemist and inventor, and has built up a large and successful business on his own inventions, and I believe he is able to give you information that will be very helpful to your committee.

Mr. JEFFERIS. Why do you have that section 687, on page 6, giving the great power to the Commissioner of Patents to recognize agents and attorneys to appear before the Patent Office? Is that not pretty drastic?

Mr. PRINDLE. No. If you had been in close touch with the practice in the Patent Office, you would think, I am sure, that the Commissioner of Patents should have the power to regulate the activities of those practicing before his office, because some of them have been scandalously dishonest and have induced inventors to apply for patents when they never should have applied—when they knew the inventor could not get a valid patent—but have held out the suggestion of some illusive prize for the invention which the inventor did not get when he obtained his patent; and it cast discredit on the Patent Office and patent system and frightened some inventors from making inventions. And so I am strongly of the opinion that he should have the power to regulate such agents and attorneys and to prevent their practicing. It is a power that he would seldom use and seldom need to use; but it gives him a restraint over those who would otherwise go over the line.

Mr. ROBERTSON. It is a power he now has.

Mr. PRINDLE. Yes; it is a power he now has, subject to appeal to the Secretary of the Interior. I think that is the only matter in which there is an appeal to him. The bill as drawn gives the commissioner power to require evidence of legal and moral fitness before permitting an attorney to practice, and gives him power to make rules and regulations governing their conduct and advertising, and to suspend or disbar for infraction of such rules, powers which he does not have under the present law.

Mr. ROBERTSON. And this would merely change it by making the appeal to the court?

Mr. PRINDEL. Yes.

#### STATEMENT OF DR. L. H. BAEKELAND, ACTING CHAIRMAN PATENT COMMITTEE, NATIONAL RESEARCH COUNCIL.

Dr. BAEKELAND. Mr. Chairman and gentlemen: Mr. Prindle has been kind enough to introduce me; and in taking up my part of the subject I feel that I ought to say that I am not a lawyer; I am merely a chemist, and speaking in public is not my occupation.

I labor under another disadvantage. In addressing you I shall have to try to show you what the conditions are under which an American inventor works, what happens to him and his point of view, and in doing so I can do no better than to give you my own experience, and I shall necessarily have to speak about my own little affairs and experiences. I hope, however, that you will excuse this, because the errors in dealing with this problem ordinarily arise from too much generalizing.

I have had ample occasion during the 30 years that I have been in this country for hearing the patent system of the United States discussed; I also have had ample opportunity for hearing the patent systems of other countries discussed. I have had litigation here; it took me lots of time, but I won my litigation. I also have had patent litigation in Europe.

I have heard numerous statements made about the shortcomings of our patent system; there are shortcomings and some reforms are needed. This country in its patent system, like in many other things, has outgrown its former requirements. We are very much in the condition of the mother who wants to compel her son who is of age to enter the Army still to wear the same clothes he wore as a boy. This country has expanded; the needs of the Patent Office have expanded. That is the reason why certain reforms are necessary.

In discussing these matters, I have frequently been confronted with the attitude of some of my friends and fellow-inventors, who imagine that all the ailments of the world center in their own little personal matters. Each one has a petty reform of our patent laws which fits his case more than any other. And that is probably the reason why I have never seen three inventors together who could agree on what reforms were needed. Some of the meetings at which I have been present and where these questions were discussed, were really amusing on account of the diversity of opinions.

There is no possibility of making any headway unless, in looking at this matter, you suppress your own personal interests and consider what is best for the country.

The patent system has not been created for the benefit of the inventors, and if it were created for the benefit of the inventors I would be against it. Inventors as a class deserve no more attention, no more honor, and no more privileges than the workman, the farmer, or the business man.

The patent system of the United States is a purely egoistic institution; it is egoistic from the standpoint of the Nation. It has been created to teach the Nation and to give the Nation the benefit of the activities of those who make headway by intellectual achievements, in order to increase the comfort and the welfare of the country.

And therefore the United States Government many years ago, long before any other country, created its patent system—I will make an exception in the case of England, but the original English patent system was not the same and was not conceived in the same spirit as ours. The United States long ago found it to the advantage of our Republic to make a dicker between the inventor and the Government, a plain, sordid, commercial dicker, in which equities were

presented. The United States Government said to the inventor, "If you have got a new thing which is good, do not keep it secret for yourself; publish your invention; give the Nation the benefit of it, and it will stimulate further inventions. And in return for this we are willing to give you a limited exclusive property, a monopoly for 17 years—not a piece of land or a house or a bank account which you transmit to your children and which is your property forever. No, sir; you are going to have a limited ownership for 17 years, and the property will not be worth a cent unless you work it. It is not the same kind of property as a piece of land which you can keep forever in your possession, whether you work it or not, and make the world smaller if you do not use it, even if you pay a small tax on it. No; it is a limited possession by which you can benefit only if you make it worth while and get to work and do something with it."

And there is no invention in the world that amounts to anything for the inventor which does not amount to much more to the people who use the invention. Here is a plebiscite of the people. Generally speaking, the people of this country are smart enough not to give their money for things they can not use. And if they have put their money in buying an invention, or an article made from it, it is not as an incentive to do honor to the inventor. It would be very foolish to do this. It is because they want the invention.

There is another element to be considered in the patent situation. I shall have to talk about myself and my own affairs in this particular instance, because I happen to be, so far as I know—and no one has contradicted me as to this—the only man in the United States who started here an important new branch of the coal-tar industry. That is one of my inventions where, in the manufacture of synthetic coal-tar derivatives, the Germans and other European countries are many years behind us. We have been the pioneers and still are the leaders in this special branch of the coal-tar industry, and the products involved are greater in importance, in value and variety, than on any single coal-tar dye or other coal-tar synthetic product which has been imported here from Europe, not even excluding artificial indigo or sulphur black.

I took out my first patents for these products in 1907. In 1909, in an address on the subject at a meeting of the American Chemical Society, I initiated my fellow chemists into my work, and my patents began to be published.

Since then there is hardly a week, and there is certainly not a month, when there are not one or more patents issued in this country and other countries which are developments or afterthoughts—and very often imitations—of those first patents of mine on these particular synthetic phenolic condensation products.

I can tell you that the same thing exactly occurs in the case of every published patent which amounts to anything. You take the initial patents in wireless telegraphy; they have been followed by endless other inventions and improvements; the telegraph, the telephone, and other great inventions show the same history. There is a kind of impetus given by the publication of a patent which accelerates the thinking and dynamics of a nation. This is an important element in the general benefits of patents that has not been sufficiently



brought out in these discussions. The publication of an invention stimulates action; it makes other inventors think and work.

Quite naturally the man who publishes his invention by taking out a patent expects to be protected; he has a right to expect this. He has made a dicker with the Nation, and the Nation in the dicker gets the free use of his intellectual property after 17 years, and so he expects a return—a limited monopoly of 17 years.

This return unfortunately he does not always get. Speaking for myself, I may say I am pretty comfortable; I can pay my debts and have been able to come to Washington and pay my expenses on this short trip.

The CHAIRMAN. If you can pay your expenses here, you must be all right. [Laughter.]

Dr. BAEKELAND. But there was a time, gentlemen, when I was not in that condition. Before I came to the United States I was a young professor in the University of Ghent, in Belgium, and professor in the government normal school of Bruges. My cash was very low.

At that time I trusted my luck with this country, and through the sale of one of my first inventions was able to settle here; afterwards I made another invention, with which some of you perhaps are acquainted. It is known as Velox paper and is generally known in the photographic art.

Well, at that time I already knew enough about the patent system of this country to feel that I could not afford to take out a patent and publish my invention. I could afford to pay the money for filing a patent, but I could not afford to take out a patent, because I had the certainty that if the patent were infringed I would not have the means to defend it. I knew that only very wealthy people could afford to do that. So the result was that I kept my invention secret. Velox has never been patented.

If Velox paper had been patented, and if the process had thus promptly become public, I am sure there would have been many papers invented which would be better than Velox, because I am absolutely convinced that there are hundreds and thousands of people who, if they knew how a thing was done, could do it better if they put their mind to it.

The CHAIRMAN. It is now 5 minutes of 12, Dr. Baekeland, and we will take a recess until 2 o'clock, at which time you can continue your statement.

(Thereupon, at 11.55 a. m., the committee took a recess until 2 o'clock p. m.)

#### AFTER RECESS.

The committee reconvened pursuant to the taking of the recess.

#### STATEMENT OF DR. L. H. BAEKELAND—Resumed.

The CHAIRMAN. You may proceed, Doctor.

Dr. BAEKELAND. Mr. Chairman, I believe I referred at the end of my little talk this morning to the stimulating effect of an invention in inducing other inventors to take up the same subject and carry it along further. There is another effect which is just as important and just as little understood. The average unthinking person says, "Why

should there be patents at all; why shouldn't we have patents free to everybody—inventions free to everybody? And why should it be that some people should have a monopoly, even for a small number of years, to exercise the exclusive patent rights and receive the benefits of an invention?" Well, this kind of an argument was quite general in the past. The first country that did away with this was England, and then the United States. Then, at the birth of the French Republic this same matter came up, and shortly afterwards the French Republic in the national assembly followed the example of the United States and introduced the patent system in order to stimulate inventions. The same countries which to-day have the best patent system have also the best industrial record. It is not known, generally, that Germany had no patent system until about the time of the war of 1870 with France. And it is very significant to note that only after Germany had a well regulated patent system she began to make such big strides in invention and industry. What is more interesting is that Germany copied her patent system after that of the United States; she preferred to copy, in its broad lines, the American patent system instead of the French patent system. The American patent system is a system by which there is a preliminary examination as to novelty before a patent is granted. In France the patent system is a system by registration. In France any man may go to the patent office and deposit a piece of paper with whatever text and claims he wants, pay the cash, and the Government officials put a stamp on it, indicating the day and the hour it is received, and that is all there is about it. In other words, the patent system of some of the Latin countries is rather efficient in the way of furnishing revenue to the country itself, but giving very little in return. It is merely a system for taxation. It is a very strange attitude of mind, but yet it persists. A French minister of finances one day said to an inventor, "I am very much interested in inventions, because whenever I see an invention I know I can tax it anew."

The German system broadly copied the American system of preliminary examination, where the State, to quite a large extent, gives some kind of an insurance that the patented thing is not old, and involves invention. There are some other countries which, until recently, had no patent system, notably Switzerland and Holland. They went on the theory sometimes expounded in this country, that if they had no patent restrictions, they were going to stimulate new industries, to use the inventions patented in other countries, free and untrammelled and at less expense. Theoretically, that was a very clever notion, but it did not work out in practice. In Holland and Switzerland they corrected this by introducing a patent system a few years ago. Take, for instance, Holland about ten or fifteen years ago; the situation was as follows: Any invention could be carried out in Holland without intervention, without compensation, because there were no patents. Theoretically, this ought to have made Holland a manufacturer's paradise, where pirates of intellectual property could do anything they pleased. Nevertheless, manufacturers of patented articles or patented processes did not flock to Holland to manufacture things there, and Holland was one of the last to advance of all the industrial countries. In fact, Holland did not deserve the name of an industrial country. And why was this?

After you have patented an invention you have to get an installation for it; you need a factory; you need a whole establishment; you have to do pioneer introduction work; you need an organization—all this is very expensive. In Holland, before she had a patent system, any man staking his money on an invention which was open to everybody, found that the next day after he had proved it a success at his own expense, his neighbor realized that he could do the same thing without incurring the risk and gamble of the man who started first.

To some people a monopoly may seem immoral, and yet it is an incentive for taking out patents, and unless a patent right is properly protected there is little incentive in it. Holland saw its mistake and a few years ago adopted a patent system, and a very good patent system. They now have a system copied generally after the United States patent system; that is to say, examination as to validity before the patent is issued. And I can assure you, gentlemen, that I have had the opportunity to observe that their examination compares very favorably with that of many other countries.

I do not want to offend the Commissioner of Patents, or any of the other men of the Patent Office who have been willing to serve Uncle Sam under insufficient remuneration, but I would rather be a chief patent examiner in the patent office of little Holland than Commissioner of Patents of the big United States. My social position, my prestige, my independence of mind, and relative remuneration as a patent examiner in Holland would certainly be better than what one gets here in the United States, and that is not right.

On this question of insuring better pay for these men, I agree heartily with you, Mr. Chairman, if you protest against the too low rate proposed for the lower positions in the Patent Office. In fact, if there is any protest or any opposition that I may have against the bill it is that the compensation is not high enough, and especially not high enough for the lower employees. In my little place on the Hudson I can not hire a gardener's helper, an entirely illiterate laborer, for less than \$21 a week; if you people in the Patent Office can hire men for \$360 a year, you astonish me.

When it comes to the matter of separation or nonseparation of the Patent Office from the Department of the Interior, I should state that our committee, with one exception, and that was Dr. Stratton, was practically in accord on this subject. Dr. Stratton does not see the importance of separating the Patent Office from the Department of the Interior. Dr. Stratton is a friend of mine, and I am one of his greatest admirers. Dr. Stratton has established in this country an institution which has no equal in any country in the world. He has practically created the Bureau of Standards; he has made the Bureau of Standards what it is to-day. Dr. Stratton has set an example to many other departments of how to run an institution. But the work of the Bureau of Standards, the needs of the Bureau of Standards, and the needs of the Patent Office, are decidedly different; and to compare the Patent Office in its general organization and in the general make-up with the Bureau of Standards is not to compare two comparable things. Furthermore, Dr. Stratton has had no precedents to live up to. He created his own precedents, and since the beginning of his bureau he has had the most hearty support of the



Department of Commerce, because there were no precedents to go by. With his indomitable energy and common sense he has been able to organize the Bureau of Standards on a very high plane and in his own way. I fear, however, that the Patent Office labors patiently under the disadvantage of having a long record of precedents and ancestors, while Dr. Stratton has been his own "ancestor."

But one thing impresses me more than anything else in this matter. I know Mr. Ewing, ex-Commissioner of Patents. I knew him before he accepted the position of Commissioner of Patents. I say "accepted," because it was a great sacrifice on his part, and his friends all over the country insisted that he, in his independent position, was better able to accept the position and give it a direction commensurate to the needs of the times than almost anybody else. I know that in accepting the position of Commissioner of Patents he made a great personal sacrifice. I know that the salary Mr. Ewing received as Commissioner of Patents hardly paid for the rental of the house that he occupied here in Washington. He had a very comfortable house near New York, which he had to let stand idle, and I know the sacrifice of the returns of his law practice amounted to many times what he got for salary as Commissioner of Patents. But for four years he has shown us what could be done with the Patent Office even under present awkward conditions. I believe that nearly everybody who has seen him at work and followed his efforts appreciates the great results he has obtained; but even for him, with all of his independence and all his good will; with all his energy, with all his experience and talents—there were certain obstacles beyond which he could not go. He and Secretary Lane were very good friends; nevertheless there were limitations in accepted ways and means, and there were certain changes he could not obtain. If to-day Mr. Ewing, still fresh under his impressions of his four years of service, comes to us and tells us his conviction, the honest conviction of an intelligent man who has been through the experience of a long career as an examiner, a patent lawyer and as a Commissioner of Patents, and tells us what he thinks ought to be done, I am willing to give him the benefit of the doubt, and I am in favor of what he recommends.

Most people who are not acquainted with inventors or with inventions, have the wildest ideas of how an invention is born—they imagine that a man some day scratches his hair and limitless thought goes through his brain, and he patents a mole-trap, or a safety-razor, and his fortune is made. Well, I believe such things may have happened, but I do not imagine many inventions occurred that way. Those are not the class of inventions, however, which are of such paramount importance as to have a decisive influence on the growth, development, prosperity, security, and comfort of a nation. The class of inventions nowadays which are the prime movers in civilization is not the kind of inventions where a man simply happens to have a brilliant thought, like a poet has sometimes. No, such inventions require work, work, and more work, and expense, expense, and more expense. Edison has said: "A successful invention demands 10 per cent inspiration and 90 per cent perspiration." A modern inventor has first to be well acquainted with his subject: most of them have studied mechanics,

engineering, chemistry, physics, and electricity, or what not, directly or indirectly. It does not mean, necessarily, that he has studied in universities or schools of engineering. Some inventors have learned all this by themselves. But, whatever he takes up, he must know about. He frequently has to do much research work; he works in a laboratory and has to spend money, and spend it freely. I have been through several of those experiences. On some of my inventions I have spent a respectable fortune (I was able to do it from money earned by former inventions), before I was to the point of even daring to risk making another experiment, the commercial experiment of organizing a working company. Very few people can do this by their own means.

Now, you may wonder where the poor inventor comes in. Well, the poor inventor can take up at first a subject which is not too complicated. If he has a complicated subject he can usually work it out with the aid of others. I am very glad to say, notwithstanding the criticisms which have been made in this very country, as to our lack of industrial research work, that I know of no country where large industrial concerns have awakened so much to the need of research and research laboratories, and where an inventor has better opportunities. Money has been provided in the most liberal way by industrial establishments, and appropriations amounting to hundreds of thousands of dollars, sometimes millions, have been made for this purpose. I could give you the names of industrial research laboratories which have cost millions for buildings and equipment alone, offering means for experimentation and research, which have never been possessed by any university, or even governments. All this has been provided by private corporations. Some of our large corporations, about 20 years ago, were certainly not in a very good way, and were run more by lawyers or promoters. But things have changed considerably. Those corporations nowadays are run on high scientific and engineering principles; they have laboratories, and any man who possesses the inventive spirit, any man who to-day wants to develop an invention by research work, is received by them with open arms. These concerns provide the cash and equipment, but they are all the time short of enough men of the highest talent to work out their ever-increasing new problems. I live among these men, and I know them. I believe I am acquainted with more inventors in this country than almost anyone I know. I know the private history of many inventors; I know their attitude of mind; I know their feelings. And I can tell you, gentlemen, that some of those large corporations have given to those men means of happiness and income and opportunities to work out their ideas in a way that has never heretofore existed in the world. And they have paid them salaries higher than anything their inventions could have brought them in had they worked individually. Many of them have been working 5 and 10 years and more, and never have been fortunate enough to produce anything that was of practical value. But their company did not bear them a grudge; it knew that in giving them enough chance and opportunity, they might produce something of value. I am not pleading for those large companies; I have nothing in common with those companies; I have never been employed by

them. In some cases I have fought them. I just want to correct the common error, which is too often prevalent, that big companies are the enemies of the inventor. They are the greatest friend of the inventor. There are some inventions which never could have been in existence except for the enormous sacrifices and risk undertaken by some of those large companies.

Then there is another thing I want to correct while I have an opportunity to do so. I have heard it repeated very often, and I have heard it stated in some of the former hearings, that the big companies are all the time ready to pirate inventions. My personal experience has been very different. I have never suffered from infringement of my patents by large corporations. I am now in the midst of a patent-infringement suit, but in no case with which I have had to deal has the infringement been committed by large corporations. They have competent and disinterested advisors. Most of the infringers are companies which start up like a mushroom and disappear like a mushroom. Mr. Prindle spoke about getting compensation in a patent case. I recently won a patent case which kept me in court for 21 days, not taking into consideration the time required for preparing the evidence, the argument, and the briefs. I won the case, three patents all being declared valid and infringed. I spent a small fortune on it, and during the time of the preparation of the suit I had to sacrifice my inventive work, my laboratory work, my work in the factory, besides my money; yet to-day I have not received a cent of compensation, nor do I see any possibility of it. And if I try to get compensation, I shall have to spend probably many times more than the amount of compensation that I finally get. That is the exact state of affairs.

I do not give these examples in order to magnify my personal grievances; I have no grievances; I have received many more advantages than disadvantages, and I do not want to insist on these matters, except to show you a practical example of what happens in practice after the people in the Patent Office have delivered their patents. In another case, which is still going on, I spent 33 days in court, and I suppose, if I live long enough, I will see the end of the case. In that particular instance, as well as in the former instance, four-fifths of the time was taken up by controverting decisions of the Patent Office and prior art—doing it all over again. While I was sitting there in that court and saw the judge listening patiently and in a very much interested way to all the arguments and all the testimony, when I saw the judge follow carefully those chemical experiments made before him, I made up my mind that as far as my own experience went—and I have seen litigation in many countries in Europe—that no country of the world could have furnished a more fair, patient, and intelligent hearing than I was receiving right there in that court in Brooklyn. But while I was sitting there, I said to myself, "You can no longer be classed among the poor inventors, and therefore it is your duty to ask what show has a poor inventor under present conditions; where is he going to get the money to defend his rights in court?" And then I concluded that it was my duty to come around on all occasions like this hearing and take every opportunity to try to do what I could to simplify our patent system, because simplification means expediency; it means less cost and less



uncertainty. And as has been very well said by Mr. Prindle and Mr. Fish—and I am heartily in accord with everything they have said—it is not a question of protecting the inventor alone, but it is much more a question of protecting the public. And when I am speaking here I do not plead for the inventor alone; I plead for the public, because while I was sitting there in court figuring up or guessing what bills I was going to get and how much it was going to cost me, I thought: "After all, am I really paying for that?" It occurred to me that the company of which I am the president classes all these outlays in its general expenses, just like insurance, and in the end it is the public—you and I and all of us—who will pay for all of these unnecessarily expensive patent suits and patent infringers.

The reason why a safety razor costs more than it ought to cost, although it is much cheaper or better to you than the razor you got without those improvements, is exactly the reason why the cost of taxes in Europe was so high because of having to maintain an army. They had to maintain an army and a navy, just as patentees whose patents are infringed have to maintain lawyers and pay for patent suits, and all that goes in the general expense. So in the end the public at large pays the cost of our defective patent system.

And that is the reason why I believe, Mr. Chairman, that if any one of those salaries which are recommended for increasing the compensation of the employees of the Patent Office—if any of those salaries were made five times as large, or, in fact, 10 times as large as they are now, it would be an economy for the country if more efficient work could be secured thereby. It would be a small expense in comparison with the economic saving for the people of this country. You would not take up so much of the time of the courts and you would not detract the attention of the inventors who have to testify as witnesses, if some of the work could be better covered by a better organized Patent Office.

The CHAIRMAN. Are you through, Doctor?

Mr. PRINDLE. No; Dr. Baekeland has consented to allow Mr. Ewing to speak because he must take a train at 4 o'clock and Dr. Baekeland reserves the rest of his remarks until after Mr. Ewing makes his statement.

I wish to say that Mr. Ewing is not only a member of the Patent Committee of the National Research Council, but he is the last Commissioner of Patents to occupy the office before Mr. Newton and was one of the best Commissioners of Patents we have ever had—a man who conducted his office on broad statesmanlike lines. And I am sure your committee will get a great deal of light from his remarks.

#### STATEMENT OF DR. L. H. BAEKELAND—Continued.

Dr. BAEKELAND. Mr. Chairman, reference was made to the system of registration in comparison with the system of examination as to patentability. It may interest you, or some of you, to know that both systems have now been studied a sufficiently long time to be able to judge about their relative merits. I am acquainted with many Europeans who have taken to heart the patent system of their own countries. For the last 20 years, I have devoted a considerable amount of my time in order to study the systems of foreign countries. I

wish to call your attention to the fact that there is no instance on record where a country has gone back to the system of plain registration—to the French system. There are instances on record where countries which formerly had the French system have adopted the American system of examination as to patentability. I should also mention that exactly those countries which stand foremost among industrial countries, have the system of preliminary examination as to patentability. As to Germany, I have already told that the inception of the patent system was based on practically a copy of the United States system. But a few years after that the Germans felt the necessity of incorporating reforms. Since the war with France in 1870, no less than three times has the patent office and the patent system in Germany been reformed. And just at the outbreak of the present war another reform was being carefully prepared. If Germany sees the necessity of modifying the general organization of its patent system once in awhile, so as to adapt it to the times, certainly this country, which is more of a progressive country than Germany, can well afford to do the same thing.

In 1913 I had a conference with Robolski, president of the German patent office. I happened then to be the president of the Inventors' Guild, a group of congenial minds, composed of independent inventors who used to meet once in a while in New York. Distinguished inventors like Weston, Edison, Frank Sprague, Cooper Hewitt, and others. At that time we used to thrash out among ourselves the different imperfections of our patent system and to discuss the needs of the patent system. We believed it necessary to debate those questions among ourselves in an informal way and much of the information I have derived was by comparing my own thoughts with the thoughts of others who had good judgment and experience. When I had that conference with President Robolski I found, then and there, that he in Germany had quite some respect for our American patent system. Robolski had been here. I found also that the president of the German patent office is a much more important man than is the Commissioner of Patents in the United States. In fact, I found out that the commissioner of patents in Germany, or the president of the patent office as they call him, has an importance which is second in importance only to that of the secretary of state. That is the way Germany handles its patent system and that is the way the Germans got from their patent system the rewards which they undoubtedly have reached in the development of their industries.

Robolski told me that the feature which impressed him most, when he was in the United States, was the directness and the speed with which business transactions were carried on in the Patent Office between the examiners and the inventors. He also mentioned as one of the defects of their own system that most of their patent examiners would make excellent professors of chemistry or mathematics or physics, but that most of the time they had insufficient conception of the practical or industrial value of the invention. He said that one of the very best of his examiners was a man who had received much of his training in the United States and who had good judgment of what constitutes invention and who had an idea of the practical value of an invention.

In some respects the American patent system stands head and shoulders above the ideals and the spirit of that of all other countries. In fact, this country is the only country where a patent is invalid if it is not delivered to the real inventor himself. Some time ago I wanted to find the name of the real inventor of a patent in Germany and I could not find it, because the patent was registered in the name of the company in which he was a chemist. The same thing is true in France and in England. If you want to find out the name of the real inventor of a foreign patent you can find it out here in his American patent, because the patent here is invalid unless it be delivered in the name of the real inventor. Our patent system has been conceived with an altruism and a spirit of fairness which was worthy of the ideals which inspired the Constitution of the United States.

Unfortunately, there is a considerable difference between theory and practice. The growth of the industries and science, and the development of our country, have brought about conditions which have become very complicated, way beyond all former conceptions. The needs of the Patent Office have immensely increased. Our patent system needs revision. That does not mean to say that every reform which is advocated should be adopted and put into practice immediately. I have had conversations with numerous inventors who only saw one side of the question, and every one had a favorite pet reform in mind. If you try to take up all these reforms at the same time, you will never get through.

Furthermore, conditions may change again very much in the next 10 years. That is the reason why the committee of which I happen to be the acting chairman, has decided that when we advocate reforms, we should aim at the basic conditions. First of all, let us brace up the Patent Office in the way which has been advocated by Mr. Ewing. I, personally, shall feel very much disappointed if we do not succeed in giving to the Patent Office and to the service in the Patent Office, the same dignity and the same incentive that exist now in the Army and in the Navy. It is not a question of salary alone, gentlemen. The officers in the Army and Navy do not go into the Army or the Navy to get rich, nor to get paid well. Yet, when it comes to the matter of loyalty and devotion to the interests of the country, there is no Army and there is no Navy in any other country of the world which surpasses ours. But I should like to see every man serving in the Patent Office feel the same loyalty and the same enthusiasm for his work, and the same dignity and incentive as the officers of the Army or the Navy of the United States.

Then there is also the matter of simplification in the adjudication of patents. I can not improve on what Mr. Fish said about that. So far as the matter of detail is concerned, you may differ with him, but I am sure that at heart you have felt the necessity for a single court of patent appeals.

Whether it is a question of choosing the judges from their present circuits, or whether it is a question of appointing new judges similarly to the Court of Claims, I do not consider all this important. The question is to do it some way or another, but do it so that there will not be these conflicting opinions among different courts of appeal. We must stop that jockeying among lawyers, so



that a lawyer will not say, "Well, I got licked in this court, but I will try somewhere else." The law should be uniform, or so uniformly interpreted that a man who is beaten in New York will not want to take a case across the Mississippi, or somewhere else and try the case again in some other district. That takes away every vestige of dignity and importance from our patent system. Rather than have that go on indefinitely in this absurd way, I should prefer to see the patent system entirely abrogated.

There is another serious question that confronts us. It is in regard to the question as to whether any one thinks it advisable to take out a patent. Under present conditions, even if you have not the money to defend your patents, it is dangerous not to patent any invention you have and which you use in your factory. What I am going to say may seem exaggerated, but it is a real fact. With the present patent system, if you do not patent your inventions, however small they may seem to you, you find after you have started an enterprise based on your invention, that before long somebody has patented the invention you have, and afterwards he may try to stop you, or if you try to stop him, you will find that the cost of the litigation before the courts is so considerable that you will regret not to have gone to the trouble of at least filing a patent. In fact, a man who starts a business in the United States, unless that business be entirely based on antique methods, and who does not stake out first his claims as to what comprises his intellectual property and his improvements and inventions, or at least makes an attempt to get a patent, runs the risk of finding himself in the same condition as the man who tries to build a house on land which he does not own, or on ground on which he has not filed his claim.

Before ending, I should like to make a brief reference to what is called the suppression of a patent. That same old question comes up quite often, and one of the members of your committee spoke about it yesterday.

Is it true that sometimes patents are purposely not worked? Yes, gentlemen, it is true, and it is true every day, but not in the way most of you imagine it. For instance, I have several processes for accomplishing the same result, and each of these processes is patented separately. Just as there are several ways of getting to Washington, so there are several processes for doing the same thing. You can get to Washington by the Baltimore & Ohio Railroad, or you can get to Washington by the Pennsylvania Railroad, or by airplane or by automobile. Sometimes it is better to take the Baltimore & Ohio. There have been cases where it was not advisable to take the Baltimore & Ohio, and where it was better to take the Pennsylvania Railroad, and I suppose there are some cases where it is better to take an airplane or an automobile. I have tried the different ways and some of them sometimes have advantages over the others.

So, in the case of patents, there are what are called alternate patents. If you know several ways of coming to the same result, the duty of the inventor, as a matter of self-protection, is to patent them all. If that is not done, then another man will come along and he will say, "I will find a loophole, and I am going to beat this man out of his monopoly." So you are compelled to take alternate patents, even if some of these are inferior methods.

One of my processes is patented by six or seven different methods, all distinct, and if somebody asked me to-day which is the best method, I could not answer him. It has taken me much time to try to find out which is the best method, and when I selected one of the six methods, the five other methods were dormant, and after five or six months, one of our engineers comes to me and says, "You are mistaken; your other methods are much better than that." And that starts an argument which sometimes lasts weeks, and after he finally convinces me that the other patent is the better, I use it. It also has happened that I use a chemical which becomes unobtainable during the war—I am giving you an actual instance—so we have to go back to another method. Here, then, are several alternate patents which have been used, and others which have not been used, but they may be used to-morrow. In a case like this, I have personally suppressed my own patents.

Why have I done this? Because I wanted to select the process best adapted to the conditions, or the one which I thought was best adapted to the conditions, but my judgment may be in error, and at other times, conditions may vary, which may introduce special advantages or disadvantages for one or another of the different processes.

Suppose I were an inventor who had sold my patents to a company, and that company for some reason decides it is not going to use one of those patents. If I am of a complaining or fretful disposition and want to call myself a victim, I will say, "Here is an example of a suppressed patent."

Then there are some patents which can not be utilized because conditions are not ripe. For instance, the best patent in the world for making picric acid to-day is not worth a cent, because all the countries in the world are over-supplied with picric acid at the present time. But during the war any process for making picric acid was good which allowed you to make picric acid the quickest, not the cheapest or the best. I could dwell on those examples for a long time, but, respectful of your time, I shall stop here and thank you for your patience.

#### STATEMENT OF MR. THOMAS EWING, FORMER COMMISSIONER OF PATENTS.

Mr. EWING. May it please the committee, there are two general policies of granting patents which are adopted—one by one nation and the other by another nation—viz, granting on registration and granting on examination.

Granting on registration means that the inventor or his attorney draws up the papers as he wants them and pays the fees; the office attaches the seal and the patent is granted. Granting on examination means that there is a corps employed by the Government to see that patents are granted only as they should be granted and when they should be granted.

We in this country granted on registration practically down to 1836. I believe that there was some idea at the time when the Secretary of State and the Attorney General took part in the granting of patents, and they were granted by the President, that these great

and important officers looked over the patents and saw they were all right. But it was obviously not practicable, and the office consisted, when it was made a separate office, of one superintendent, one clerk, and one messenger. And that was about the situation down to 1836, and patents were granted merely on registration. It led to a great deal of discontent and to a considerable amount of public concern. Patents were granted several times for the same thing, and the public in one part of the country, not knowing of a patent to a man in another part of the country, were mulcted in damages and purchasers were buying patents found to be bad because another had a patent on the same thing of a little earlier date. The matter was fully investigated by a committee of the Senate, of which Senator Ruggles was chairman, and a bill was brought in establishing the Patent Office on its present basis. From that time, 1836, on we have granted only on examination.

When we established this system of examinations it was novel, and it is distinctly the American system now adopted in a great many important countries.

At the time when the Patent Office was established it was regarded as a highly important office. The salaries were large for that day; the salary of the head of the office was the same as a Member of Congress. The selections were made with due regard, I think in the main, to the importance of the work. There were many men of culture and wide experience and knowledge in the arts employed there, and there grew up a tradition of learning, industry, and honesty in that office, which it has inherited and which it is putting into effect to-day. And the courts began to pay great attention to the decisions of the office. You will find in the decisions running all the way through the Federal Reporter, the Supreme Court reports, and the earlier reports of the circuit courts and the district courts statements to the effect that "the experts of the Patent Office have held that this thing was patentable, that it was new and useful, and we are not going to reverse their judgment lightly; we have to be shown substantial reasons."

That is the way the system ought to work; it ought to be a fact that the courts, whose judges are not selected for the express purpose of passing on patents, who are taken from the more ordinary business of law and learn the technical questions that are involved with considerable difficulty—it ought to be that they could rely on the decision reached in the Patent Office as a starting point and as a determination to be enforced unless good cause can be shown to the contrary. But that policy throws upon Congress the duty of keeping the Patent Office in equipment and personnel up to its job; of maintaining its character in point of intelligence and in point of knowledge and opportunity to learn the arts, which our theory of the patent system demands.

For a great many years Congress did bear in mind these general considerations, and did undertake to keep the force large enough and well enough equipped to do the work; but I believe that for the last 30 years there has been a steady degeneration. I say the last 30 years because my acquaintance with the Patent Office began just 31 years ago, and I do not undertake to speak back of the time I knew the office. I was there as an assistant examiner 30 years ago,



and then practiced before it until 1913, and then was for four years Commissioner of Patents.

During that whole period there has been a perfectly enormous growth of the arts with which the Patent Office has to deal, which are all the arts of practical manufacture and development, commercial development. And also, along with that and as a part of it, there has been an enormous growth in the available literature, and an enormous growth in the number of applications for patents. Now Congress, generally speaking, has applied this rule, and has not even done that with any great generosity, that if you could show within the last four or five years that there had been an increase of 20 per cent, say, in the number of applications over the previous four or five years, they would, perhaps, then grant you a 20 per cent increase in force. But as for the point which has been made over and over again by commissioners, and which everyone who knows the office recognizes, that the labor per application increases with the diversity and the growth of the arts and with the enormous outpouring of literature through which the examination has to be made; to that point I do not think Congress has ever paid the slightest attention. The result, in my judgment, is that the force to-day is not more than 50 per cent in point of capacity in comparison with the work it has to do what it was when I was in the office 30 years ago.

I wish to make this point a little more definite and will therefore have to elaborate a little. There are to-day more than 1,300,000 United States patents. Now, take a time when there were 600,000 United States patents. If you had to examine an application and compare it with United States patents of course you would not have to go through the whole 600,000; you would have those patents among the 600,000 that had been segregated and put in the same general class in which your application was placed. But all of these classes grow just in the same way as the total number of patents grow, and the work of segregation, the work of classifying all this vast outpouring of patents has to be done by the corps just as much as the work of examination. They are the only ones that can do it, because if any one else undertook it the probabilities are the classifications would not be of practical use to the men who are making the searches. And so it is a fact, which I do not think anyone who will seriously investigate this matter will gainsay, that the labor of examining 10,000 applications to-day is just about as much larger than it was 20 years ago as the number of patents to-day is to the number of patents 20 years ago.

And what is true of the United States patents is true of the foreign patents; not that they have increased in the same way, but that we have been more successful by constantly working at it in getting complete sets of foreign patents, so that the amount of foreign patent literature is fully double. It has grown fully in proportion to our American patents, if not more. And the literature of the practical arts is growing in the same way. So that I believe that the force, as compared with the force of 30 years ago when I was there as an assistant examiner, is not over 50 per cent efficient.

I did everything that I could with the committees of appropriation to impress upon them our necessities and to improve those

conditions. I do not speak of this in the way of criticism. I know perfectly well that those men on both of the committees felt the keenest responsibility in their duties, and that the burden of the appropriations on taxpayers was realized by them keenly, and they were doing everything they could to keep them down within reason. But when it comes to an office like the Patent Office it is a fact that it does not get any fair consideration, or, indeed, any consideration and attention from those committees. Take it to-day; those appropriation committees are passing out appropriations of, perhaps, \$4,000,000,000. The Patent Office gets \$2,000,000. It gets pretty nearly one two-thousandth part of the attention the committee can give to the whole subject. And, therefore, unless this committee will give careful attention to it and do something to help us, I do not believe that anything will ever be gained from the appropriation committees.

The CHAIRMAN. The fact of the matter is, Mr. Ewing, they have not any authority to act—that is, except where statutory positions are provided for, and any provision that would be inserted in the bill would go out on a point of order.

Mr. EWING. I appreciate that. Now, I have, of course, followed with very great interest the work that has been going on in the Patent Office since I left there. While I can not speak with the same intimacy of knowledge that I had when I left there, I can say that conditions have grown steadily worse because of war conditions and the inadequacy of the salaries becoming more and more accentuated. And I do not see any likelihood of relief. For example, there is in the Patent Office a body of nine hundred and fifty-odd employees and a few over 400 are on the examining corps. My recollection is that it is about 430; I have not the accurate figures, but can get them if necessary. At any rate, it is a little less than half. Now, that examining corps is made up of the men who actually make the searches against the applications that are filed. Their work is the work of the office. The commissioner and the board of appeals and all that are to administer and correct mistakes and to do what they can to help along, but the value of the office depends fundamentally upon the value of the work those men do—that examining corps. Of those, there are 85 fourth assistant examiners getting \$1,500, with some addition on account of the special legislation that was passed. To-day there are 72 temporary appointments among that 85 or 90 men, for the reason that the Civil Service Commission can not certify men for the position. Nobody will take the examination; that is to say, of those who take the examinations only a very small percentage can pass, and there are very few who come up for appointment. And the fact is to-day that there are 72 temporary appointments in that one group. Of course, in the higher grades of assistant examiners that is not true.

These civil-service examinations are very severe, and especially so for the Patent Office. I do not wish to criticize them; on the contrary, the work is of such a character that it demands a man of thorough training. And when you demand of a man thorough training in order that he may fill his place and then offer him an immediate salary that is not large and a prospective salary that is altogether inadequate you can not expect to fill the places with ease or

with a desirable class of people. What has always appealed to me in that situation is that it is necessary that a man, to fill one of those places, should have practically a college education, or a technical-school education, which is more useful for the purpose of that office, and yet it is not possible for the man who has two or three children to give his children such an education as his place demands of him.

Of the primary examiners, those receiving a salary of \$2,700 a year, there are 50. They are the men on whose judgment 97 or 98 per cent of all the patents that are passed on go out. If any one of those primary examiners, on looking over an application, going over it with his assistant and going over the art as presented, concludes that a patent ought to be granted, it is granted as a matter of course. It is true that the commissioner has to sign it, but he has to sign about 800 a week, and any examination he might attempt would be purely perfunctory and, therefore, nothing is attempted. And these patents that are sent out, many of them go into the scrap because many of them are valueless. Many of them are fought over at an enormous cost, and frequently the office overlooked something they should have found. And in that way the business of the country is disturbed and inventors, perhaps, led on by false hopes, make big investments or induce others to make big investments, and in various ways it means a burden on the development of the arts that is out of all proportion to the cost of the office.

Now, I feel that the men that have that authority, and there is no other way of organizing the office in my judgment, ought to be men that could look on that position as a desirable position to fill for their lifetime, because the longer they are there the more knowledge and information a man can acquire of his art that he is passing on and the better his judgment, and in every way he becomes more efficient, up to the maximum of his ability and his strength. And then, of course, as he gets older he must be retired. But no man can really look on a place of primary examiner as being desirable. He feels that he is making a sacrifice, possibly because he has acquired a family and he dare not get out. But whatever the reason is, he is making a sacrifice which is unfair to his family and which is bound to disappoint him.

Above the primary examiners, of whom there are 50, there are only the chief clerk, the examiner of classification, and five members of the board, which make seven; two assistant commissioners, making nine; and the commissioner, making ten—there are only 10 places in the office that pay more salary than this \$2,700. I believe there are five law examiners who get \$2,750, but then they count in with the others, practically. So there is not much chance among that group of men for any one of them to get a promotion beyond \$2,700 or \$2,750. Why, that salary was fixed substantially 50 or 60 years ago. I do not remember what the salary was in 1836, but I do know years prior to the time I went in in 1888 the salary of the primary examiner was \$2,500, and it was increased to \$2,700, I think, 12 or 15 years ago. But for 50 or 60 years, certainly, it has been within \$200 of what it is to-day.

The result of that policy toward the office is that the force is constantly depleted by the withdrawal of the men as soon as they learn the office and learn the ropes and find they have an opportunity to



get out. I believe that 25 per cent of the force has resigned within the last year and a half. And the primary examiner who stays there year in and year out, doing his duty as best he can, trains up these young men to the point where they can relieve him of some part of the burden of the detail of the place and then sees them go out and new ones come in. He himself is growing older on the job all the time with the pressure of his family increasing and the inadequacy of his salary felt more and more while he is being called on to do work, the importance of which is frequently enormous—because these patents are frequently of enormous value. I have always felt, and I felt it more keenly when I was there as commissioner, that it is a heart-breaking position for a man to be in. Each one of those primary examiners has to pass on about 1,500 applications a year. The work is perfectly enormous, and the conditions under which it is carried on are most disheartening.

MR. JOHNSTON. Mr. Ewing, would it interrupt your train of thought if I asked you a question there just for the purpose of seeing if I follow you?

MR. EWING. Not at all.

MR. JOHNSTON. You refer to primary examiners?

MR. EWING. Yes.

MR. JOHNSTON. What term is employed to describe a primary examiner in this proposed bill? Is that what you might call a principal?

MR. EWING. A principal, yes; those two terms are used interchangeably—principal examiner and primary examiner.

MR. JOHNSTON. I did not know.

MR. EWING. It is also extremely disheartening, of course, to the man at the head of the office. When I went in there in 1913 there were over 30,000 applications awaiting action by the examining corps; not all new applications, but new and amended applications. There were, I think, 32,000. I got some little increase in the force, and I got some little modification of the classification of the members of the force, so that they got a little better average salary. And we stirred up some interest and enthusiasm, and in four years of desperately hard struggling that number was reduced to about 15,000. During the last year, from June, 1918, to June, 1919, that has gone back again, so that there are to-day nearly 18,000 cases awaiting action. One reason is because of this great lot of temporaries on the roll and the great number of changes that have occurred. But there the situation is that the office is working against an enormous flood of business, and it is keeping its head out of the water only with the utmost difficulty. And a year's inattention on the part of Congress, or two years' inattention on the part of Congress, to the demands of the office simply puts the office back to the point where they have to work in a slough of despondency.

I want to show also how the work is coming in at the present time. During the month of June, 1918, there was just 1 short of 4,700 applications for patents. During the month of June this year there were 6,461, or an increase of 38 per cent. Now, they were just able to carry the work on as it was, and here is an indication of an enormous increase of business which may not prove to be as great as this may indicate, but is sure to be very large in the immediate

future, because every indication anybody has who is familiar with the patent business is to the effect that the business is growing and going to have an enormous increase as soon as the war is settled and business is revived. By way of showing what the indications are, they have in the office what are called copy pullers. They have about 50,000,000 copies of old patents; that is, patents that have already been granted—50,000,000 copies of the 1,300,000 different patents that have been granted and which are stacked up, and they sell for 5 cents a copy—and they have boys called copy pullers to pull them. Now, in the last few months the orders for copies have doubled. That shows there is a sudden large increase of interest in the patent business. And so it is in the assignment, recording, and so in various other lines.

I have devoted my talk so far to the examining corps, because those are the men that make the examination of the patents; and, as I say, their work is really the backbone of the work of the office. But the clerical force of the office does a work that is absolutely essential. If they can not keep their records straight and can not answer their letters and do the ordinary business of the office, why, of course, the force can not make any examinations. And the situation in the clerical force is more deplorable than it is in the examining force. The salaries are low in proportion to the salaries paid elsewhere. The number of comparatively high salaries is less in proportion to the total number of places than it is in the other departments. They have one class at which all of the stenographers are supposed to come into the office, \$720 a year, and every place there is filled by a temporary, because they can not get anyone certified by the civil service at that price. And I have been told, although I have not looked this up myself, that in the entire Government service, of all of the \$720 stenographic places in the entire Government service, half of them are assigned to the Patent Office. And when they came to Congress to try to get that class abolished and some higher places substituted, quite a number of the \$720 class was stricken off, but nothing was substituted.

They have just established in the War Department a work of reviewing patents and drafting patents, and so on, in connection with the work of the department. And they have advertised for men who would come in there at from \$2,400 to \$3,600. Well, almost all the people who applied were in the Patent Office—the people who applied to take the examination. They can not get men suitable for their work for less than from \$2,400 to \$3,600, and there are only four places in the Patent Office that pay as high as \$3,600. They start a new thing here in the War Department, requiring very much less skill than the work of a primary examiner, and they can get a salary fixed that will be reasonable and give them a chance to get the right sort of men; but because this office is an old office, because it has traditions, its salaries have become pretty nearly stationary. And there is no way to improve this situation unless this committee will give the matter the urgent attention that it requires.

I have one other thing that I want to say a few words about, and that is the position of the Patent Office in the Interior Department. I am the one who suggested that it be made a separate bureau—as the Agricultural Bureau was for 25 years before the Department of

Agriculture was started. I wish to say that while that suggestion is mine, and in that sense it is my baby, I am not half as much interested in that as I am in getting an increase in force and an increase in salaries in the office; but to get a separate office is, to my mind, one way of getting better salaries and a better force, and that is the result that I am aiming at, and the separation of the office is merely the means. I am very well aware of the general objection in Congress to separate bureaus, but they have had to establish a number of separate bureaus, and separate commissions, etc., and they have done so from time to time for the past 15 years—the Interstate Commerce Commission, etc. The difficulty with the Patent Office in its present condition is this: The Secretary of the Interior has no authority to control the decisions of the commissioner. There used to be an appeal from the commissioner to the Secretary, but that has been done away with for years. The commissioner is answerable only to the courts of the District. The Secretary is the officer who makes appointments in the office, but he can do so only on the written recommendation of the commissioner. The Secretary must approve the rules, but he can do so only on the recommendation of the commission, that the rule be thus and so. In the case requiring discipline in the office, the Secretary has authority, and in the case of discipline of practitioners before the office or any member of the bar, the Secretary ultimately has the authority to disbar or reinstate a man. But there is nothing essential about any of these points.

The office could run perfectly well without the Secretary, because those duties could be performed by the commissioner if he were a man suitable for the place. And the real effect and the only serious effect I have ever been able to observe after four years there is that any attempt to improve conditions of the office results in a comparison with other offices where the problems are not at all the same. For example, what sort of a man do you want for a Commissioner of Patents is not to be answered by finding out what sort of a man you want for Commissioner of the General Land Office or Commissioner of Pensions. The problems that they deal with are totally different. What sort of a man you want as an examiner of patent is not to be answered by finding out what sort of a man you want to make examinations in the Pension Office. The problems are totally different. The education of the men, the type of mind, their ambition, and everything else is different. And there is an office that is joined up with eight other bureaus utterly unrelated, and if you undertake to say to the Secretary, "I want an increase in this branch or that branch," he immediately is forced by the urgency of the representations of the other bureaus to compare what you are asking with what they are getting. Why, when I went in there the Pension Office was absolutely disintegrating; business was falling off very much, and there was nothing in prospect, and yet what the Pension Office could get along with was a sort of a standard by which we had to be measured. And even if the Secretary gave in on a point of that sort and would bring the matter to the attention of Congress he would get the same comparison there.

Now, I believe as an independent office, fighting its own battles, the Patent Office could in the course of time impress upon Congress the fact that it is a unique office; that it performs a function which



is one of great and unusual difficulty; that it requires men of an especial type of mind, of an especial character of education; and that it ought to be treated on its own merits, without regard to what other bureaus may be getting.

You can not exaggerate the importance of the work that goes before that office. It deals with every serious suggestion made anywhere in the world for improving any one of the industrial arts. I know of one case, which I cited in one of my reports, where a series of inventions, made in the course of two or three years and put through the office in the course of four or five years, saved one large company alone in its manufacturing business a million dollars a year, all passed on by a man whose salary, at the outside, was \$2,700. There are any number of such transactions—transactions of such magnitude—and in such transactions there is a great public interest involved; and it is of the utmost importance to the public interest that the office be made attractive to the type of men we need.

Now, I agree entirely with Mr. Baekeland that they are entitled to ten times what they are getting, and it is not too much; but I do not mean to urge anything like that. I admit there are difficulties in the public service in paying adequate salaries, and I think there is much compensation in the certainty of employment during good behavior, and there is much compensation in the dignity of the public service. But in the Patent Office the conditions as to salary and personnel are archaic. We are now facing a condition in the business world which is going to make the conditions there absolutely impossible if something is not done. What is going on there, I can state in a word, is that this Government or the Congress, by failing to follow the needs of the office and keep it up to the demands of its work, is slowly changing our system of granting patents on examination into a system of granting patents on registration, because they are slowly making it impossible to make any adequate examination at all.

If we are going to have a registration system, let us have it, and let us say we have it. Let us stop the courts from relying on the decisions of the examiners; let us have them say, "Why, this patent is nothing but the inventor's statement of what he thinks he has done, and we will treat it accordingly;" and let us get rid of the expense of a million dollars a year for maintaining an examining corps. What is the use of all of this unless it is going to be done properly? And if, on the other hand, we are going to maintain a system of granting on examination, then it is absolutely essential that the office be kept equipped and adequate for its purpose.

THE CHAIRMAN. Mr. Ewing, you did not touch at all on the patent court of appeals. I just want to let you understand the frame of mind of some members of this committee regarding the method of appointment. A number of the members of the committee can not see the advisability of appointing circuit and district judges for a period of six years and leaving those circuit and district courts idle; and, if men are appointed to take their places, something must become of the men that come to Washington for six years. Some of them have in mind that, if there is to be a patent court of appeals, the judges ought to be appointed primarily for that purpose; because it means that if a man, or two men or three men, should go

back each six years, not be reappointed, or each three years—because the first six men appointed are three for three years and three for six years, and when their time is up they are either to be reappointed or to go back to their old courts. And the men who have taken their places, places must be found for them. In the first instance, they might take a man out of a district that embraces California, we will say, and bring him on here to Washington. They might not see fit to reappoint that man. His place during that six years will be filled, and how are you going to take care of a case of that kind? It is going to create a chaotic condition. That is the thing that is in the minds of a number of members of this committee. I know you must have given some thought to this question of the patent court of appeals, and there is a thing that is an involved question, and unless some way is found to meet that, unless you can have what was termed in the old days a traveling circuit judge, a fellow who swings from one end of the circle to another, there will be a number of additional judges and you are going to have a very involved situation to meet.

MR. JOHNSTON. And, Mr. Ewing, will you also have in mind when you are making a response to the chairman's question the fact that the statute now compels a district judge to be a resident of the district in which he holds court or in which he sits?

MR. EWING. That is, when he is appointed he must be a resident of the district in which he is serving?

MR. JOHNSTON. Yes; and must continue to be a resident of the district of which he is the presiding officer.

MR. EWING. I catch the point you have in mind. This is the theory, I think, on which that bill was drafted, that there is at the present time, we will say, a certain number of cases, of which a considerable number are patent cases, heard on appeal in the appellate court. Now, if a judge is taken from one of the districts and brought on to Washington to hear those appeals, just so much work is taken out of his circuit, and so it is not necessary to fill his place. So that this arrangement does not really increase the business, and, therefore, the only increase in the cost would be the chief justice.

THE CHAIRMAN. Is it your idea, then—let me get that clear—that these six justices who are brought on here can perform the duties in their district in addition to their duties in the patent court of appeals?

MR. EWING. No. Take, for example, the New York circuit; there are four circuit judges, and I think there must be——

MR. JOHNSTON. There are four district judges, also.

MR. EWING. What?

MR. JOHNSTON. There are four district and four circuit judges in New York.

MR. EWING. That is, in New York City. But in the circuit, I think, there are eight or nine.

MR. JOHNSTON. There are four in New York, two in Brooklyn, one in New Hampshire, one in Connecticut.

MR. EWING. And Judge Hazel and Judge Ray—that is how many?

MR. JOHNSTON. Eleven, I think.

MR. EWING. Now, any one of those judges can sit in the court of appeals. And if 1 out of 10 is brought over to Washington to hear

patent cases, and if one-tenth of the business is patent cases, which is certainly true, then there is no reason for filling his place in New York.

The CHAIRMAN. The statement was made here by one of the committee this morning that as far as his knowledge goes practically every district court and court of appeals in the country now has more business than they can transact; and even though you relieve them in the districts of the patent work, you would still have use for all of the district and circuit courts of appeal judges.

Mr. EWING. Yes.

The CHAIRMAN. And what particular objection is there to creating a patent court of appeals and having it a patent court of appeals alone?

Mr. EWING. I think there is this general feeling among the bar, that men who are passing on cases all their lives of one type become rather specialized and rather narrow, and they are not quite as good lawyers as if they had the general experience.

Mr. JOHNSTON. Would not that criticism also apply to lawyers who specialize in the patent law?

Mr. EWING. Oh, yes.

The CHAIRMAN. Is not the institution you have built up down here in the Patent Office an institution of men who particularize in that work?

Mr. EWING. Oh, yes; but, then, they are not final arbiters.

The CHAIRMAN. Yes; but upon their decision—

Mr. EWING. A great deal turns; but you have to have technical men.

The CHAIRMAN. And upon their mistakes all this litigation hinges?

Mr. EWING. I won't say all of it, but a great deal of it.

The CHAIRMAN. A great deal of it involves litigation. That is one reason I know the members of the committee are pretty much concerned about this involved situation, about taking men out of the district courts of appeal and circuit courts of appeal, and what is to happen to those particular districts for the six years they sit here.

Mr. EWING. Now, of course, if there is a district where there is only one judge and you take that judge out of the district, the business would have to be transacted by a judge taken out of some other district and that perhaps would be awkward; but in most of the districts there are several judges.

Mr. JOHNSTON. There are only three districts in which there is more than one judge.

Mr. EWING. Is that the situation?

Mr. EWIN L. DAVIS. Oh, yes; there are only a few of the city districts that have more than one judge.

Mr. EWING. I must confess that I had not thought of that.

Mr. EWIN L. DAVIS. And under the law the district judge has to be a resident of the district in which he presides; and if you take him from that district and appoint a man to fill his place, then when the first district judge shall have served his time in this court of patent appeals and returns, you have two district judges appointed for life in that district. And the same thing happens when you go to another district and take a district judge, and so on.

Mr. EWING. You might find it works in that way.



Mr. JOHNSTON. And then you would have two judges in a district?

Mr. EWING. Yes.

Mr. JOHNSTON. Take New Hampshire, for instance, you would then have two district judges in the district of New Hampshire when the present judge, the only one, does not have 60 days' work a year to do, and the proof of that is found in the fact that he is brought down into our own district in Brooklyn, in the eastern district of New York and the southern district of New York, to lend aid to the overworked judges of those two districts.

Mr. EWIN L. DAVIS. I think I am safe in saying that your proposition with respect to the formation of this court will encounter bitter and organized opposition on the part of the bench and bar of the whole country.

Mr. EWING. Why do you say that?

Mr. EWIN L. DAVIS. I say that for the reasons that we have suggested that it creates a complicated situation and will ultimately prove much more costly to the Government and will interfere most seriously with the transaction of the regular business of those various judges; and the masses of the people are more interested in the general business of the courts than in patent litigation, because where there is one man interested in patent litigation there are 10,000 interested in various other phases of litigation.

Mr. EWING. I would have been glad if you had asked Mr. Fish about that, because he is the one who has been pressing that especially.

The CHAIRMAN. The reason I wanted to ask that question of you, Mr. Ewing, is because of your four years' experience here. Now, I do not know that we would encounter the opposition of the bench and bar throughout the country, but I have this in mind, that in the House particularly there was a tremendously organized opposition to increasing the Federal judges during the past four years. Now, if it is a good proposition to create a patent court of appeals, isn't it the best thing to create it in the simplest manner, and you would not run counter to the determined opposition to increasing the Federal district judges throughout the country? I know in the California district they have been trying for a number of years to get an additional judge, and we ran up against the other districts when we tried to get an additional judge; and when they all get together, we have not sufficient influence to put the thing through because of the determined opposition to it. And if a patent court of appeals is necessary—and it appeals to me as a remedy for some of the evils of the Patent Office—why not approach it in the simplest manner? We have other courts here; we have the Court of Claims, the Court of Customs Appeals, and we have the Commerce Court, I guess.

Mr. EWING. No; not any longer.

The CHAIRMAN. No; but we have these courts dealing with special sorts of legislation. Now this thing is a very involved question, because if you take a man out of California or some other place, if you take your six men from six different districts, and then if you change in three years, without reappointment, the fellow is going back to the district from which he came and he finds somebody else has taken his place or else the ordinary business of that district has been neglected. And that is in the minds of this committee in con-

sidering this patent court of appeals, that we are likely to enact something that will make a very involved situation and, at the same time, arouse a determined opposition of the men in both Houses who are opposed to any great increase in the number of Federal judges.

Mr. EWING. I am sorry to say that I have to catch the 4 o'clock train; and may I write a little communication to you on that point?

The CHAIRMAN. Yes; I wish you would; and I wish you would elaborate a little bit more on the absolute necessity and the distinct advantage of a separate bureau, because I have in mind that the United States Public Health Service is a very important institution and they do not seem to be getting very far as a separate institution.

Mr. EWING. They don't?

The CHAIRMAN. They don't seem to, and I don't think there is anything more important to the country than a very efficient United States Public Health Service.

Mr. EWING. I might ask, too, Mr. Chairman, that you would get a copy of House bill 14903 of the Sixty-fifth Congress, third session, and if it meets your approval, if you would offer it in this Congress, so that it might be discussed along with this legislation. I appeared for that bill, and I would like very much to have it before the committee.

I thank the committee very much.

The CHAIRMAN. If there is anything you would like to incorporate in your remarks, we would be very glad to have it from you.

Mr. PRINDLE. Mr. Chairman, I desire now to introduce Mr. William J. Kent, an inventor of the development department of the United States Rubber Co.

#### STATEMENT OF MR. WILLIAM J. KENT, OF THE UNITED STATES RUBBER CO.

Mr. KENT. Mr. Chairman and gentlemen of the committee, what I have to say in this matter will be very, very short and right to the point, and I hope you will appreciate it by taking every word I shall say at its full face value.

I am going to confine myself mainly to the question of the salaries of the office force of the Patent Office, and in doing so I am including every man from the commissioner right down.

In 71 years there has just been an increase of 10 per cent in the salaries of these men. But meanwhile the cost of living has been increased over 300 per cent.

As an inventor, not very great, but as an inventor for the past 26 years, I have been closely associated with the patent system of our country and the men connected with it. And I wish to say to you, without fear of contradiction, that a more conscientious, broad-minded, intelligent, better educated, or more courteous set of men never existed. Their parents spent some thousands of dollars on their education with the prospect of a bright future before them. Before they entered the Patent Office they had to go through the most rigid examination. They are supposed to dress well, as they meet the cream of their profession daily. Their theoretical knowledge of science and mechanics must be far greater than that of the

ordinary lawyer, as they are at the root of the modern industries and the progress of our country.

It is through the inventions of our people that our country has been able to maintain itself against the competition of the pauper countries of Europe. And it is these same men who are here before you to-day rightfully asking you for a bare living income who pass on those inventions that capitalists and manufacturers are asked to invest hundreds of thousands of dollars in.

Imagine for a moment their responsibilities, and with the strain of their living expenses on their minds. How is it possible to expect the best exercise of their talents from them? I am one of those whom they have encouraged and whom they have assisted to make the different patents I have received from the Patent Office as valid as possible, and for the past 26 years it has been a mystery to me and a miracle to the observant person how they can support themselves, let alone support their families. I have machinists working under me who receive more yearly salary than any man in the Patent Office, with the exception of the commissioner. And that machinist's education did not cost his parents a cent, and the reason he gets the salary he receives is that I want the best mechanical skill I can get from him, and I can not see any way of getting it but by relieving his mind from the financial difficulties of maintaining his home, and when I do that I know I will have the full benefit of his mechanical ability when a mechanical problem is brought before him.

Compare their positions with those of the gentlemen in the Patent Office, and you will see the most ridiculous situation that was ever brought before you. Our country is going through a period of reconstruction. Men, especially those with fixed incomes, are dissatisfied, and rather than demoralize their efficient forces the manufacturers are increasing the salaries of the best men. So should it be with the Patent Office, and more so since it has taken years of hard labor to bring it to its present state of efficiency.

Now, to refuse the request that has been brought before you would demoralize the whole department, as these men can not afford to continue in their present positions, and the greatest patent system in the world, which is ours, and which has been copied mainly by all the reputable nations of the world, will be completely disorganized.

I wish, therefore, gentlemen, and I pray of you to take into consideration the salary question that has been brought before you by these gentlemen. You must not for a moment compare the fixed income of the employees of the Patent Office with the incomes of the members of the Cabinet or any other appointee of the President, who, while they are in Washington retain the general income of their business or profession at the same time.

Those men in the Patent Office have no other mode of obtaining a dollar more than is given to them by Congress. Therefore they are wholly and solely confined to the remuneration they receive as employees of the Patent Office.

There has been a little discussion here in reference to the courts and other matters in connection with the future of the Patent Office. If I started a business and that business was successful I would reinvest the money that it gained into the business and make it more proficient. Why not do the same thing with the Patent Office? Why



bring up the illustrations against it from other departments that have been the nightmare of the taxpayers since they were created, while the Patent Office, on the other hand, is one of the few branches of the Government that can show a large surplus in the Treasury for its efforts?

I thank you, Mr. Chairman and gentlemen.

Mr. PRINDLE. Mr. Chairman and gentlemen of the committee, I beg now to introduce to you Mr. Milton Tibbetts, representing the Packard Motor Car Co., and chairman of the patent committee of the National Association of Manufacturers.

**STATEMENT OF MR. MILTON TIBBETTS, CHAIRMAN OF THE PATENT COMMITTEE OF THE NATIONAL ASSOCIATION OF MANUFACTURERS.**

Mr. TIBBETTS. Mr. Chairman and gentlemen of the committee, the patent committee of the National Association of Manufacturers, of which I am chairman, reported favorably on the substance of these three bills which you have under consideration, and its report was unanimously adopted by the association at its meeting in May.

The National Association of Manufacturers represent approximately 5,000 manufacturing concerns in the United States, employing about 3,000,000 people. The members are in every State of the Union and every industry in the country is represented. It is the oldest and largest industry of its kind in the United States.

Because it believes in the American patent system and desires to see it properly operated and administered, this association is interested in seeing maintained at Washington a Patent Office second to none in the world. This ought also to be the wish of every American citizen.

The association's membership composes both business men and inventors, and its interest in the Patent Office and the patent law is from both of these viewpoints.

As business men the association members are vitally interested in seeing the patent law and its interpretation made more certain, so that there may be a facility about it that will permit it to promote growing industries rather than retard them. Uncertainty in law and in property rights is a direct and powerful business retardant, and the increasing number of indefinite, uncertain, and invalid patents is a direct menace to many of the industries of the country. From the inventor's standpoint the association members desire intelligent consideration of their patent applications and well directed and systematic operation of the Patent Office from one end to the other. They want thorough searches made by the Patent Office and well classified information in the Patent Office, so that they and their attorneys can make reliable searches in the prior art. They feel that they are entitled to this, first, because they have already paid into the Patent Office more than \$8,000,000 over and above what has been expended for its administration; and, second, because they are willing to pay even more to obtain these better facilities.

It is the function of the Patent Office to issue patents which definitely draw the line between the new inventions and what has gone before. It can not do so with any degree of certainty with its pres-

ent inadequate force of examiners. It needs more trained men to do the work and greater incentive in the way of salaries to retain the men after it gets them. To create new examining positions would be futile unless the salaries were made attractive enough to permit the commission to fill those positions with competent men and keep them so filled.

Now, in considering this matter of increasing the salaries of the officers and examiners of the Patent Office it must be borne in mind that you are not dealing with mere clerkships, but with positions requiring men of the highest technical and legal training.

I might add to what has been said in regard to this matter of salaries, that our draftsmen are paid \$2,400 and our chief draftsman is paid \$3,000 and our engineers are paid from \$5,000 to \$20,000; and they are men of the same education as these men.

MR. JOHNSTON. I would like to ask the commissioner what is the present salary of the draftsmen for whom provision is made in this bill for a salary of \$1,800?

MR. NEWTON. From twelve to sixteen hundred dollars.

MR. TIBBETTS. We took a Patent Office draftsman out of the Patent Office a couple of years ago and took him into our company at \$1,800, and he is getting \$2,200 now. That is merely the Patent Office draftsmen. I was speaking of the draftsmen in the engineering department.

MR. JOHNSTON. The skilled draftsmen?

MR. TIBBETTS. Yes. Those men we are paying from \$2,000 to \$2,600.

MR. JOHNSTON. It is proposed to give the stenographer \$15 a week. What do you pay them?

MR. TIBBETTS. Anything we have to pay them in order to hold them.

MR. JOHNSTON. You are not able to get any good stenographers for \$15 a week. I know I can not get them for that.

MR. TIBBETTS. No.

THE CHAIRMAN. There are some Members of Congress who think you can hire people to do competent work at a dollar a day.

MR. TIBBETT. I think the reason why our discussion here is more in regard to the question of the examiners' salaries is because we think that needs to be talked about. I believe the other salaries will take care of themselves.

MR. JOHNSTON. When I make this inquiry it is not alone because I believe this is a ridiculous wage proposition, but I believe the examiners are very much underpaid.

MR. TIBBETTS. I understand. I made that explanation to show why we are more concerned about this other matter, because it is different in the Patent Office than anywhere else. The other matters are the same in all the departments.

MR. JOHNSTON. You also have in mind that the chairman of this committee on the floor of the House yesterday spent the whole afternoon trying to persuade many Members of Congress that \$3 a day was little enough to pay, and did not have very much success.

THE CHAIRMAN. There is also another angle to it, and it is a matter that concerns every Member of Congress. I presume your association and the company you represent have given some consideration to it.

Every once in a while we get from the automobile manufacturers of the country a petition to take off taxes, and we get similar petitions from other branches of industry to take off taxes. It is all right to say the Patent Office is self-sustaining. So are other branches of the Government. But it does not make any difference how you levy your assessment on them. It all means taxes. The money that comes through the Patent Office relieves the Government of that much taxation. If they put it on in the shape of fees there would be less taxation. But we are always assailed because of high taxes. Everybody wants to transfer the burden of taxation to somebody else. But we have got to keep going.

I have consistently and for a number of years tried to get fair treatment and some method of dealing fairly with all Government employees. Whether they be the highly skilled technical men in the Bureau of Standards or the highly skilled technical men in the Patent Office, or the highly trained men in the Department of Agriculture, or other departments, the same principle is involved. Congress has never devised a method of dealing fairly with them.

We have now a committee or a commission on reclassification, but I do not think they can deal with it.

But we are always confronted with the general proposition of somebody wanting to keep down taxes. That is the trouble that the committees are up against, and unless we can go into the House well fortified, not alone by way of argument, but with the facts, so that the Members of Congress can have a full appreciation of the matter, we can not get support for measures of that character.

MR. TIBBETTS. With the facts before you, such as we are trying to give you—

THE CHAIRMAN (interposing). But those facts do not always get to the men on the floor in a way so that a man will know what his constituents are going to think of the matter. You represent an association of 5,000 manufacturers, and if each one of them will take sufficient interest in the matter to take it up with his Member of Congress that would have possibly more influence than all the arguments made before committees. It is not a question of bringing in a bill. They can slaughter it like they submarined my \$3 a day bill yesterday.

MR. JOHNSTON. The shortsightedness of the policy of the Government in the matter of paying its employees and its attitude toward its servants is not only illustrated by the incident which you have given here of taking a skilled employee out of the Patent Office where he secured his education, and has become valuable because of his experience obtained at the expense of the Government and taken him into your private enterprise. That same thing occurs in every other branch of the Government. Down in the Internal Revenue Office there are hundreds of girls there from all over the country getting \$1,800 a year and they are becoming experts, and in order that they may become very efficient the Government has provided a school for them where they learn to become efficient in analyzing the returns, and nearly every one of them, as soon as they become competent, expert employees, leave the employment of the Government and go to some private enterprise or in business for themselves where they get three or four hundred per cent more than they get in the Government service. That is what is being done all along.



The policy of this Government is to educate people at a wage which is less than a living wage, and as soon as they become expert encourage them to go into a private enterprise where they will obtain at least a living wage, and the shortsightedness of this policy does not seem to make any impression on the gentlemen in this Congress. I think.

Mr. TIBBETTS. We have a plan that will bring this matter to the attention of Members of Congress, from those 5,000 manufacturers or members of our association. We are going to take up the matter, so that these members will hear from their constituents.

The CHAIRMAN. It is not a question of propaganda. I have in mind the raids made on the Patent Office by other independent bureaus that we created during the war. I do not know any other branch of the Government service on which a greater raid was made, but I was glad they did it. I think everybody was entitled to the chance. If they could not get the money in the Patent Office I say let them get it somewhere else. I think it perhaps would solve the question if they brought everything there to a standstill. Those men were entitled to more money, and other bureaus gave it to them, and some of them did get it, although some of them were checked in it.

Mr. TIBBETTS. As I said before, you are not dealing simply with mere clerkships, but with positions requiring men of the highest technical and legal training.

The questions raised before the office are the same as those raised before the Federal courts, but there is this difference: In deciding a patent case a Federal judge has the assistance of skilled counsel, who present both sides of the question to him, and skilled experts to explain the scientific or mechanical principles involved, together with as much time as he deems necessary to reach a conclusion, whereas the examiner in the Patent Office in passing upon the same question has but one side presented by counsel, has to find his own evidence, act as his own expert, and reach his own conclusion in a very limited space of time, all the while remembering that he represents the public in the *ex parte* proceeding. His knowledge of patent law and the principles on which it rests should, indeed, be even wider and deeper than that of a Federal judge.

These examiners have to pass upon questions often involving millions of dollars—they are creating *prima facie* rights in property every time they pass a case to issue. They are, in fact, judges, and as such are guardians of the rights of individuals as well as of the public at large. They must be men of character and fine ability, but you can not expect to get and retain such men on the meager salaries that are now paid them. Principal examiners receive \$2,700, first assistants \$2,400, second assistants \$2,100, and third and fourth assistants \$1,800. These salaries are ridiculous. To compare at all with the salaries paid by private concerns to men of similar ability the principal examiners should have \$5,000 or \$6,000, and the assistants in proportion. The commissioner should have at least \$10,000 or \$15,000.

These are not clerkships. These positions call for engineers, chemical experts, specialists in manufacturing and designing, lawyers, men of the highest education and training. And the best

training can only be given them by inducing them to stick on the job. In other words, the turnover should be small instead of the 25 per cent in three years that it now is. The matter of turnover is the thing that affects us all the time.

The first two years of an examiner's service is mostly training; he is getting acquainted with the art: he is becoming a specialist. That is more necessary in the Patent Office than in the courts. He should be able to see something ahead of him in the way of a larger salary to induce him to stay when he has reached that point. He is worth more than twice as much to the office as when he entered. He should be able to see even beyond an immediate increase; there should be a principal examinership, with a comfortable salary attached, awaiting the better men.

These are some of the reasons why I most heartily indorse, on behalf of the National Association of Manufacturers, H. R. 7011, increasing the salaries of the officers and examiners of the Patent Office, and I urge upon you the advisability—in fact, the necessity—of passing that or a similar measure.

After patents are issued it is the function of the Federal courts to interpret and adjudicate them. With numerous appellate courts in different circuits, as at present, where local conditions may affect conditions, it is not surprising that various phases of the patent law have been differently interpreted in different parts of the country and patents have often been held valid in one circuit and invalid in another. This retards the growth of industries, because a patent may provide protection in one section of the country and not in another, thus limiting quantity production and constantly depriving the consumer of the lower price benefits of that production. Such uncertainties and such ambiguous determinations of interests should be largely removed or at least greatly mitigated by the establishment of a court of patent appeals, such as is proposed in H. R. 5012.

The National Association of Manufacturers is also in favor of H. R. 5011, providing for the separation of the Patent Office from the Department of the Interior, partly because it believes the present connection to be unnatural and unbusinesslike and partly because it believes a proper recognition of the real dignity and importance of the Patent Office will never be obtained until it is separated from a department of the Government that must necessarily classify and compare it with its other bureaus whose work is of a more or less ministerial character. This bill is an important one, just as it is important also that the Patent Office should be allowed by Congress to use some of its \$8,000,000 surplus to erect for itself a new office building, fitted to its important work in the life of a great nation like this one.

This matter of legislation for the Patent Office and the patent court is vital. If something is not done soon, we will have no patent system. Many of the good men of that office who are now holding on in the belief that Congress will this year grant at least the increases called for in the pending bills will leave for more lucrative positions in other departments of the Government or with private concerns if those increases are not forthcoming; and it will simply be impossible to fill their positions. Every time a notice goes out that I want another man in my office I get a flood of applications

from the Patent Office, and unless something of this sort is done there soon will not be anyone there.

And more and more business is coming through the Patent Office. It is an era of the greatest activity in all lines of industry, and applications for patents are flowing into the office more strongly than ever. My particular department had one man last year, and has three now, and that is merely one industry. The inventors will pay their fees and they will expect prompt and intelligent action. Those inventors and the purchasers of their inventions are entitled to your best consideration.

I thank you, Mr. Chairman and gentlemen.

Mr. PRINDLE. Mr. Chairman, I now want to introduce to the committee Mr. Elmer A. Sperry, a member of the Naval Consulting Board, the inventor of the gyroscopic compass, the gyroscopic stabilizer for ships and airplanes, arc lights, and other inventions used by the Navy and Army during the war, and who, I know, was obliged to devote his entire time during the latter part of the war to Government demands.

#### STATEMENT OF MR. ELMER A. SPERRY, MEMBER OF THE NAVAL CONSULTING BOARD.

Mr. SPERRY. Mr. Chairman and gentlemen of the committee, I do not know that I am much of a talker. My job has been more in line of driving nails. But I want to add one word to what has been so ably stated this afternoon.

I have a shop and during the war we had about 2,400 men. I am working in a very difficult art. The gyroscopic art is something that is rather unusual and rather difficult to get into and to understand, and I have to employ very highly skilled people. There are one or two places in the compass where we have to get down to one forty-thousandth of an inch, and if we do not get there we can not give the meridian to our naval people; and there are times when they need the meridian very badly. I know I have to give our technical people on my staff much more than \$2,700 a year, because they earn more and also in order to retain them.

Mr. JOHNSTON. Where is your work done?

Mr. SPERRY. In the wilds of Brooklyn, near New York.

Mr. JOHNSTON. Coming from the same place, I want the record to show that.

Mr. SPERRY. We have an 11-story building there.

Mr. JOHNSTON. I know that; it is in my district.

Mr. SPERRY. I am delighted to know I am among neighbors and friends.

I feel, Mr. Chairman, that our Patent Office does need to be helped just in the line that all the speakers I have heard so far have indicated to you, and with which they have impressed you. I do not think that needs any more amplification by me.

Now, as an inventor, possibly of the long-haired kind, what is my standing? Where do I "get off" with the present prospects working in a difficult art as I am, having spent a number of years in the art? I have three boys and a daughter, and when they were children I started in buying all sorts of gyroscopic toys for them, and became



immediately fascinated with some of the wonderful facts connected with the theory of the gyroscope. Very early in the game I was aware of the great difficulty in which a magnetic compass finds itself. As we are building our ships more and more of steel, you understand the magnetic compasses are in more and more trouble. When we put a steel ship on the ways and begin to drive hot rivets into the steel, whereupon the ship is found to have a big north pole and a big south pole, just the same as the earth. Put a magnetic compass on such a ship and it will point to a north pole close by much rather than to one 12,000 miles away, and it persists in pointing to that particular pole on that ship, and it takes sometimes two days' urging, with very careful expert work, to "swing ship." A great battleship with 1,400 people on it will spend possibly as much as two days in trying to tease that poor compass needle not to point to the pole upon the ship, but to the great North Pole of the earth. When it does point to the North Pole of the earth, its action is so feeble that it is almost useless.

We change the heading of a ship and the magnetic compass comes around "the day after." It is tardy in its action and sluggish and almost useless. Now, then, I thought I knew about that: I thought I saw the trouble coming, and I wondered what in the world we were going to be able to do to help the situation. I knew of the laws of the gyroscope; I knew that I could make a gyro compass if I could only find ways and means for mounting a ponderable mass so as to be successful. You know the needle of a magnetic compass rests on a point; it is floated in liquid so as to buoy the whole mass up with a total weight on that point of only two or three grains, so that the compass can be sensitive and can finally swing around and find the magnetic meridian. When the magnetic meridian is found it is a very evanescent and uncertain thing.

On the regular voyage from England to the United States, our magnetic compasses start in with a variation of  $32^{\circ}$ . When the ship gets to Boston the variation is  $18^{\circ}$ , and when it gets to New York it is  $9^{\circ}$ , and it is not the magnetic meridian we ever use in navigation, it is the geographic meridian. The magnetic meridians are like the stripes of a zebra, and the magnetic north pole is 1,200 miles from the real North Pole of the earth used in navigation. The magnetic pole has been located three or four times but never in the same place. It floats around. So the magnetic compass is in constant trouble and its troubles are many.

As I say, I became enthusiastic about being able to make a new kind of compass, leaving magnetism in the rear and passing on and using another field of force that is entirely different from magnetism. What do you suppose it is?

This is quite well illustrated by a remark of Admiral Fiske. He said, "My friend Sperry is the only fellow who would lose his job if the earth should happen to stop." I utilize the rotation of the earth. That is another field of force. I try to pick up the feeble, slow rotation of the earth by a gyroscope and the gyroscope will swing around. The law I use is this: Whenever you rotate a mass, if you rotate it fast enough, provided it is mounted so as to turn in any way, i. e., it is universally mounted, you will find that it will swing back and forth, and finally settle with its axis absolutely

parallel with the axis of the earth. It is not fast at all, but it shows where the axis of the earth is.

The gyro compass thus deals with an absolute geographical north—the north we all use for navigation—the north that the navigator wants. We have a thousand of these compasses out now, and they have become the standard of every navy in the world, except the navy of the Hun, and he is said to have stolen one of them. But the one he has made does not point north. He has to have eight tables in order to work the thing out and he can tell where north is by reading and comparing the tables. That is what we find on his submarines.

MR. EWIN L. DAVIS. In that connection, when the German submarine was here recently, the mechanic who was in charge of the vessel stated that their gyroscope was superior to anything the Americans have yet been able to invent. Is that true?

MR. SPERRY. That is not true. Their compass does not even point north, as stated. Every needle on every compass I have ever delivered points absolutely to the true meridian. If you will go down on the submarine you will see pasted up on one of the frames of the submarine some very elaborate tables—there are only eight of them. We find the true north by reading the compass and finding the right place on the tables. But it takes a genius to find the right place on the tables on account of three variables that must be used.

MR. EWIN L. DAVIS. I saw it, but I did not understand it.

MR. SPERRY. I have made it my job to understand it, and I think I do.

Now, then, I went forward and by dint of spending a good many years I finally got something that would function as a compass. With the splendid aid of the Navy I improved it. They were very patient with my first attempts, and finally we got a first-class compass, about which I have testimony after testimony that it has done excellent work for navigation. It is a great comfort to "the man who goes down to sea in ships" to have with him the absolute meridian—for the first time an instrument of precision in navigation.

Now, I have tried to patent this. The first thing I found in my unusual art was the great difficulty in getting any examiner in the Patent Office to comprehend fully what I was driving at and how in the world it operated, although we tried to make it clear in the specifications. We sent down a model and showed just how it operated, and took the examiners up to the Naval Observatory, where we had a battleship type of compass operating. We have a full equipment always operating up at Annapolis, with which we train our officers. Finally we got some of our claims allowed, and we are commencing to issue those patents now.

Others seeing my success have started in. There is one other especially who has copied a great deal of what I have done and is actually using parts coming from my factory. Now, am I going to be able, with our Patent Office in its present condition, to get patents that will protect my art? I feel that I have worked very hard and long and that my work ought to be adequately protected. So much for the patents themselves.

Then the question naturally arises in my mind, with the lumbering and long-protracted methods of the patent courts to-day, will I be

able to hold out? Suppose some large financial interest should back my opponents, and they should come forward and indulge themselves to the full in infringement. They might be abundantly able to stand litigation. Am I? There is where the proposed simplifications of the courts' methods, so ably presented yesterday by Mr. Fish, come to the support of the inventor, and that is why as an inventor I want them, and why I believe that all of those proposed amendments to the patent-law procedure are important. They are very important to me, and it is a great honor to have been permitted to tell you about my personal feeling with regard to them and how these various extremely important matters before you affect me as an inventor. I thank-you.

Mr. JOHNSTON. Mr. Sperry, just take, as an example—you had some difficulty in the Patent Office in explaining the merit of your invention, did you not?

Mr. SPERRY. Well, if you use the word "merit" broadly, I feel——

Mr. JOHNSTON. I am trying to use it so as not to offend you.

Mr. SPERRY. The Patent Office deals with my actual contribution, that which I have added to the art.

Mr. JOHNSTON. What I have in mind is this: That is not an unusual experience with an inventor?

Mr. SPERRY. In a difficult art it might be.

Mr. JOHNSTON. If he is unable to make his specifications as clear and definite as is ordinarily done.

Mr. SPERRY. In the ordinary branches I agree with you.

Mr. JOHNSTON. All right. That necessitates exposing or elaborating your plan to him, does it not?

Mr. SPERRY. It certainly does.

Mr. JOHNSTON. All right. That man is a man who gets about \$1,700 a year, or some such amount?

Mr. SPERRY. Something on that order.

Mr. JOHNSTON. Having progressed another step, you said you have a competitor, and your competitor may be financed by some large, substantial corporation?

Mr. SPERRY. Yes; that is right.

Mr. JOHNSTON. At least one of affluence?

Mr. SPERRY. Yes.

Mr. JOHNSTON. Does it not occur to you that it is a very great peril or a very great danger to expose a man to the temptation of using corruptly the information which you in the instance we have just mentioned have imparted to him in divulging this information to the interests which you just described, these interests of large, substantial means?

Mr. SPERRY. As you have stated, there is always this possibility.

Mr. JOHNSTON. I am accustomed not to quibble about things. Don't you believe, as an experienced business man, that if that examiner had a reasonable, substantial pay, such as is proposed by this measure, or even a larger amount, with the assurance of a permanent position, that it would be much more unlikely that there would be any temptation toward corruption on the part of these people?

Mr. SPERRY. Most emphatically.

Mr. JOHNSTON. And as a sound, business policy, predicated upon your experience as a substantial business man, you would in the



operation of your business reward a man fairly or proportionately if he had the opportunity of securing this information and the temptation of disposing of it, would you not?

Mr. SPERRY. Oh, yes; I am doing that now.

Mr. JOHNSTON. I mention that to show the difference between the method employed by private enterprise and the Government in the treatment of its employees.

Mr. SPERRY. Of course, that is only one of the difficulties of the inventor.

Mr. JOHNSTON. You understand that we appreciate all the while that it has been stated here that this whole office itself has absolutely been free from corruption or even the suspicion of it.

Mr. SPERRY. I am glad you have pointed this out, as it is true. They are certainly a wonderful lot of fellows at the Patent Office.

Mr. JOHNSTON. That is all.

Mr. PRINDLE. We have other speakers, Mr. Chairman, but it is about a quarter of 5 now, and if you prefer, we would like the hearing to go over until morning.

The CHAIRMAN. Yes. We will resume at 10.30 in the morning.

(Thereupon, at 4.45 o'clock p. m., the committee adjourned to meet at 10.30 o'clock a. m., Friday, July 11, 1919.)

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COMMITTEE ON PATENTS,  
HOUSE OF REPRESENTATIVES,  
*Friday, July 11, 1919.*

The committee this day met, Hon. John I. Nolan (chairman) presiding.

The CHAIRMAN. Gentlemen, I think we will proceed. Are you ready, Mr. Prindle?

Mr. PRINDLE. Mr. Chairman and members of the committee, it gives me great pleasure to introduce Judge Learned Hand, United States judge of the southern district of New York, who has had a very wide experience in the observation of the patent system from the bench. His court is probably the busiest patent court in the United States. He has come here at considerable inconvenience, and I am sure his views will be helpful to this committee.

**STATEMENT OF HON. LEARNED HAND.**

Judge HAND. Mr. Chairman and gentlemen, you have heard a good deal, I understand, in the last two days, and I do not think I can give you much that is new. Mr. Prindle thought I might have suggestions, as my acquaintance with the patent system, of course, is somewhat different from that of practitioners at the bar, and as I am very much interested in the bill I was very glad and, indeed, anxious to come and tell you anything that might be of service to you if I could.

There are two bills, of course, as you know, and the first one I want to take up is the one establishing a patent court, which seems to me is much the more important of the two, without minimizing the importance of the second one. I, along with, I presume, the gentle-

men of the committee and many people, most people, do not favor very much special courts. I think a judge should not be a specialist, and if this were the creation of a special court to which judges were assigned who would never do anything else, I should not think it was a good bill. I think that is particular true in patents, as gentlemen of the patent bar have often told me, and it quite accords with such experience as I have had myself, that for a judge to do nothing but patent work permanently gets him into a narrow and somewhat bureaucratic attitude. He should keep alive to the general aspects of the law; if he does not he forgets that patent law is law at all. But this, as I have said, is not a special court in any true sense. It is a court to which the judges, with the exception of the chief justice, will come, stay for a period, and then retire back again, and they should retire back again. They will not, during the period that they are engaged in the work of the court, I think, lose touch as judges with their general acquaintance with the principles of law, principally with the principles of equity, which come up repeatedly in connection with patents, and which it is very important to remember in the adjudication of patents. So, in my judgment, I do not think that the danger which applies to the establishment of a special court—with deference to some of the special courts that have been created in the past—will apply to a court of this character. The term is, perhaps, somewhat long, but that is a detail of no consequence, which you gentlemen have it within your power to modify if you see fit. So much for the general consideration of the character of the court.

Of course, what you will want to know is: What are the advantages which would lead you to establish such a court? for if it has no advantages it is of no consequence. You have heard a good many of them, and I am afraid I shall repeat in going over them, but I must, because I have not been here. The first and salient advantage which will come from the court is that a patent will be what the United States professes to make it. It will be a patent for the United States. We know that a patent is a monopoly given for a consideration, and the consideration, in my judgment—and I think you all agree—is ample for the monopoly which the inventor enjoys, for without this system of patents it is extremely questionable whether our economic and industrial development could have been anything like what it has been. At least, that is the principle we all go on, and I have no question that there will be any dissent from the general principle. Now, you all know that a patent is not a patent until it has been adjudicated. Whether it ought to be or ought not to be may be debatable, but you must accept that fact because you can not avoid it. You can not take care of the rights of the community at large except by acknowledging that condition—that a patent, until the courts have finished with it, is not a real protection to the inventor. Without some authoritative adjudication all over the country the inventor is not protected except in the particular circuit where his patent happens to have been adjudicated. I do not mean, of course, that he has got to get nine separate adjudications; generally he has got to get two and sometimes he must get three.

However, it means two suits with all the expense attendant on them, at least, if the patent is well fought. As the law stands now I do not think it is an exaggeration to say that a patent is not a patent

all over the United States until the inventor has gone through two, and in very serious cases more than two, expensive litigations. That situation ought to cease, because it ought to be possible to know when you have got a patent finally. Let us start with that. Then, incident to that, is the great saving to the inventor. We have all heard the cry—and it is a perfectly genuine cry—that the poor inventor—and he generally is poor when he starts—has a very hard road before him. I do not think the defendants are to be charged with any culpable desire, in most cases, to cheat the inventor. They want to know what they can do and what they can not do, and their side of the controversy is an important one. The public ought to know where the monopoly reaches and where it does not reach, and the consequence is that he has got to fight, first, through the district court, and, perhaps, with testimony taken all over the country, because, as you know, the diversity of proof in these cases is enormous; then he has got to go to the circuit court of appeals and, as I have said, he has got to do that two or three times.

Now, any expense which he may be put to by having his lawyer come here or hiring another lawyer to argue the case in Washington in his behalf is much more than offset by the necessity of proving his whole case over, because, in the case of a persistent defendant he will have to prove his whole case over. So I do not think you need have any misgivings on the score—which occurred to me that I do not know whether it has been urged at all in opposition to the bill—that the distance of Washington from many parts of the country will be oppressive. In the end it is, if I may say so, a poor man's bill: it is a bill which will, in the end, give the inventor who has a genuine invention an advantage, and will enable him to establish his rights, if he has a good thing, at less expense to himself than under the present system.

Then there is one more consideration and this is the only one that I want to suggest to you that has occurred to me and that is the character of the judicial work which will result. Of course, you will recognize that this, perhaps, is a delicate subject for me to speak of, because I am a judge myself, but I am going to be quite candid with you. The judges are admirable in all the work which ordinarily comes before their courts, but some of them have a constitutional inability to understand complicated questions of machinery, and we all have a very great inability to understand the more difficult questions such as come up in electrical and chemical patents. I think I can safely say that all of us, when we get a really stiff patent, involving electrical current and questions of chemistry, are pretty helpless.

In any event, we have to make the best effort we can and not exhibit our weakness, and that is inherent. You can not take the ordinary lawyer and put him on the bench and expect him to be an electrical expert, but you do get many judges, quite a number, if I may say so, who can acquire an ability to understand a blue print, which means a machine, and who do get a genuine capacity for understanding the ordinary mechanical patent, and some men have a natural ability to understand even more complicated patents. Now, those men are distributed through nine circuits and through I do not know how many different districts. We will take, now, only the appeals, because that is all that concerns us; those men are distributed among



nine circuits, three or four to a circuit, generally. Of course, when you get an appeal to three men you will get one or two, and you may get three, who are genuinely capable in these matters, but you are likely to get some who are not. I say this frankly, and I want to say it publicly, because lawyers, as you know, are somewhat sensitive in those matters, that sometimes you may get a court where there is not anybody who has that faculty, a somewhat special faculty, and I think the result is—where the circuit court of appeals is a final court, as it almost always is, as you know, unless there is a difference of opinion between two circuit courts of appeal—that a patent may be adjudicated over a large and important part of the country—over an important industrial part of the country—by, I might say, judges who have not got hold of really what the thing is, or, at least, it may be carried by the vote of judges who do not represent as good talent as the bench affords.

Now, under this bill, as you all know, the judges, with the exception of the chief justice—who will, of course, be preeminently an expert, because he will undoubtedly be chosen with that in mind—the other six judges, of whom four will always be sitting, will be chosen by the chief justice, as I think we may safely assume, not only by the present chief justice, whom we all respect, but by any man who is appointed chief justice, with a view to their capacity to sit in that court. I do not think it can be suggested that the resulting capacity of that court will not be a great deal better for the disposition of patent cases than certainly the average of the circuit courts of appeals, and I think I may say, without question, any circuit court of appeals. That, I think, is a very important factor in the case. I think if you were acquainted, as possibly some of you are—I do not know—with the actual operation of the patent law in the courts, that would appeal to you as a very great advantage. It would put the country in the way of patents on the same level with those countries where the patent courts have as judges professed experts.

Now, there has been a question raised, as I understand, by some member of the committee—so Mr. Prindle told me—as to the effect this would have upon the general work of the courts, and that is a question which I have reflected upon a good deal. I am not wholly certain as to what it will be, but it is a question that you gentlemen will have to answer, and possibly I can throw more light on it than a person who is not a judge. I had thought at one time that it might be better to prescribe in the bill that the judges should be selected only from among the circuit judges themselves, and my reason for that was this: That the circuit court will be relieved of all patent business; and in a circuit like my own, the second circuit of New York, that used to be a very large part of the work—not in the number of cases but in the amount of work, because the records were very heavy and the work was hard. I suppose that when I went to the district court 10 years ago it took up one-third of the time of the court, and it was much the hardest kind of work. While the work has fallen off during the war, I assume it will grow larger again; but all that work the circuit courts of appeals will be relieved of. So you may ask: Why should not the chief justice have the power to only appoint from among the circuit judges, and not take judges away from the district courts, which will not be relieved at all.

Those judges for the most part are very necessary to the work of the courts because, I think you all know, the Federal business has grown very large; the Federal statutes are piling up all the while, and we have an increase of jurisdiction continuously. That would be a very good objection, except that there is this consideration: There are some parts of the country in which the circuit judges are quite willing to sit as district judges and do the work when they get through with their own work. I am sorry to say in some circuits they do not seem to be willing to do that, but they do with us. Judge Hough, one of the ablest judges we have, believes in doing district court work, and I think he is quite right. He thinks that a man who sits all the time in a court of appeals loses his ideas as to what a trial is. Judge Ward and Judge Manton also do this. I think that in other circuits—although I do not know so much about them—the same situation applies to a certain extent. Now, then, it is useful, I think, to leave open the possibility that the chief justice shall select either kind of judge if he chooses; put it so that he can do that, provided the work of the district court does not suffer in consequence. In other words, this is a step toward mobilizing the whole judiciary of the country, and I think that would be a very desirable step wherever it could be taken.

The CHAIRMAN. In addition to that, I think the most serious question in the minds of a number of the members of this committee is not the question of the patent business as much as it is the effect of taking men out of some particular district for six years—either a circuit or a district judge. Now, the general business of that district, unless a substitute is found, is going to be disturbed for the time that he serves in Washington, and if he is reappointed it means 12 years. Where are we going to find substitute judges for the men we take out of those districts? That is the thing that is disturbing a great many of the members of this committee, more so than this question of patent business, because some of them seem to think that the circuit and district courts ought to be relieved of some of the business; they think they are already crowded, and that confusion will result by taking these men out of the different districts. If we do that, who is going to fill their places; and if their places are filled, when they go back how are we to take care of the substitutes?

Judge HAXN. Of course, if you want to appoint a judge you can only appoint him for the full term. You have brought up something that I said I would not speak about but as it is involved I will say something about it. I think the terms are too long; I do not believe you can get judges to agree to sit for six years doing patents. I do not know anybody who would. Of course, you provide a very much larger salary and that may be an inducement. However, that is a detail. The suggestion you made, Mr. Chairman, I think, is not answered but is somewhat counterbalanced by the fact that there is no increase in the total business to be done. That was the reason why it occurred to me at first that if you had only circuit judges in this court you would not meet with that difficulty, because the relief will all be of the circuit courts of appeal. However, I think it could safely be left to the chief justice because in making his appointments he unquestionably would appoint those who would be willing to serve and he would also have in mind the effect on the general judicial bus-

iness of the circuits. He would have to do that and I am sure he would. If he decided to take a district judge I should suppose he would not take one until he assured himself that the loss of man power, if I may use those words, in the district court would be made up by agreement on the part of the circuit judges to fill in in the district court, and that would be possible in our circuit.

I apprehend that the chief justice in making his selections would say, "I will not burden the districts by the loss of any district judges but what I will do is to get circuit judges to go on the court of patent appeals and they will be able still to do their work. Of course, if you have a situation where the judicial staff of the country at large is not big enough, then you have to appoint some more judges; that is obvious. Do you think that time has come? I do not know. I do not think it has come with us. That may be the condition elsewhere; I do not know. This bill merely distributes the work which already exists, the patent cases, among the same body of men, redistributes it in a different way. Does that seem to you to be an answer? It is the best answer that I can make.

The CHAIRMAN. That hardly reaches the point that some members of the Committee have had in mind. In picking these men they would be taking six judges out of the different sections of the country, and instead of the patent business being done by nine circuits there would be one patent court of appeals in Washington. A man who now devotes part of his time to the general business would be taken away from that business?

Judge HAND. Yes, sir.

The CHAIRMAN. How are you going to fill in? You might find a situation in some districts where you could distribute the ordinary work by relieving them of the patent work, but there is a pressure, I suppose, practically from every section of the country for United States judges.

There is a general disposition, and has been for several years, to deny them any relief, and with that situation facing Congress we are going to be asked this question. In taking men out of our districts who is going to be assigned there to do the work?

Judge HAND. Let us suppose we drew the limitation in the bill or because the Chief Justice finds that he must do it, this courts is made up only of circuit judges, and you take one from the second and two from the sixth—there are two extremely able patent lawyers in that circuit—and one from another circuit, and so on, the men who are left are going to have very much less work. If there were four in the circuit the remaining three men could easily dispose of what was done before by four, because by hypothesis they would have less of the patent-appeal work, which is a very serious and heavy part of the work. Let us suppose, however, as in many of the districts there are only three, so they have to have one more, they have to draft a man from the district court to do that. That court so constituted has no patent business before it and it gets through with the work a great deal sooner.

Now, you say at once that while the district judge was transferred to the court of appeals his district was suffering. That is true. I answer, but he gets through with the two circuit judges with him, and if they will come down when through and will help, it will be



a very simple matter for them to make up for the time that may have been lost while on the circuit court of appeals. I quite grant you, Mr. Chairman, if you do not get some means by which you can thoroughly mobilize the judicial machinery of the United States you will find added pressure under those circumstances. I can not see any escape from that. I think therefore it is only fair to say, if the circuit judges would not recognize if they drew on the district courts because of the loss of one of their number they ought to make up for that work, you would get a certain increase in judicial pressure. I do not think that is an objection anything like commensurate with the great advantages to the community of having such a court as this. I do not think it is at all necessary or an inevitable result.

The CHAIRMAN. I do not think there is so much objection on the part of the committee to the idea of the patent court of appeals.

Judge HAND. No.

The CHAIRMAN. Take the two judges that you speak of—the chances are that they would not want more than six years—where would you get the men to fill their places?

Judge HAND. Suppose you only took one. There are four.

The CHAIRMAN. Take one man out of the district—

Judge HAND. If you have four in a circuit you do not have to take more than one, unless one is disqualified.

The CHAIRMAN. What objection is there to having a patent court of appeals devoted entirely to the consideration of those appeals, appointed even for life?

Judge HAND. And doing nothing else?

The CHAIRMAN. And doing nothing else, inasmuch as the whole structure in the Patent Office is based upon specialization and the patent law is largely a special line. That is a suggestion that some of the members of the committee have made.

Judge HAND. I do not think you can answer that by any general consideration. I think if you will consult the bar generally, they will admit that they do not want a man who does nothing but patents. He gets a certain rigidity of mind, and I am quite frank to say that he gets to be somewhat of a bureaucrat. I do not wish to make any comparison with the Patent Office. There is undoubtedly a different attitude if you are doing not only patent work but other kinds of work. That is what members of the bar have often told me since I have been a judge. I believe that. I can not prove it to anyone, but I am very certain it is true. I am very certain that if you have a man who all his life is doing nothing but patents, not touching the general principles of the law, the broader principles of the law, you will make a mechanical court. I do not believe in special courts, and it is for that reason mainly. After all it is one law in the end. A great deal of it is understanding the machine and understanding the process, whatever it may be; I do not think you have to at the start, but in order to decide the case you have to have something more than merely to understand what the facts are. I think it is not vague or nebulous to say that if a man is engaged all his life in doing nothing more than deciding patents and never touching either at law or in equity the general principles upon which our law is founded—and they are all really general principles—I believe that the result will be in the end disastrous. That is really all that I can say in

answer to your question. I can not demonstrate it. The only way you can get any check on it is to consult the people who are really disinterested, that is, the lawyers, because they do care whether they have one kind or another.

The CHAIRMAN. As soon as the Chief Justice picks one of the district judges for the special court that would necessitate the appointment of another man for his district?

Judge HAND. It would, unless the circuit judges were willing to take their share.

The CHAIRMAN. And after six years, when the term of the man appointed to the patent court was up, he would revert back to his district?

Judge HAND. Yes, sir.

The CHAIRMAN. And that would make two men in that district, and after some time there might be three?

Judge HAND. I think we must assume that he will exercise the power with some view to the work of the district in question. Of course, we must assume that he is going to try to do this properly. I believe he would—I have no doubt about that. In cases where the circuit judges would not help out, what you say seems to me to be true. If you are not willing to trust the Chief Justice a little with those considerations, you have it in your power to provide that only circuit judges shall be appointed. If you are not willing to leave it more plastic and leave it in the discretion of the Chief Justice, you can control it absolutely by providing that only circuit judges shall be appointed. You must bear in mind that this bill does not increase the total amount of work to be done, there will not be any more patent appeals, and what the patent court takes is relief for the appellate courts which now take charge of them. I myself feel quite strongly that it is undesirable to limit too rigidly anyone in whom we have so much reason to expect impartiality as the Chief Justice of the United States.

If I were in you gentlemen's places I should not have any fear about that. If you do not think that is a power that ought to be lodged in him, I think the answer I make is very nearly a complete answer. There are still cases where the circuit court might have to draft a district judge in order to make three, and in that case, although he would be absent from his district, they ought to be willing to make up for the time taken from him. They might not. I think that is a consideration. I do not mean to disguise that. In most cases there are considerations on both sides, but I do believe very heartily that the considerations which make for the bill will very much more than overbalance the others.

Mr. BURKE. Does the Chief Justice now appoint the district judge?

Judge HAND. To sit in the circuit court of appeals?

Mr. BURKE. Yes, sir.

Judge HAND. No. The senior circuit judge asks the district judge to sit with them.

Mr. BURKE. Then, the appointing power is in him?

Judge HAND. It really can not be said to be the appointing power. The circuit court is made up of three judges, and it sometimes happens that one is disqualified in a case: he may have an interest,

may be a stockholder and can not sit, and the circuit court judge says to A or B, "Come and sit in this case," or "during this term."

Mr. BURKE. Would he not have the authority to appoint a substitute?

Judge HAND. These appointments are temporary.

That is really all I have to say with regard to that feature of the bill, and I have taken longer than I intended. As to the other bill—

Mr. JOHNSTON (interposing). Before you leave that question, judge, do you share the fear of the patent bar that a judge who devotes his time exclusively to patent work can not be expected to do his work well?

Judge HAND. Yes, sir; I do.

Mr. JOHNSTON. Then, if that criticism is sound, would it not apply with equal force to members of the patent bar who specialize in that character of work?

Judge HAND. I think those members of the patent bar who occasionally dip in other law or who have had a preliminary education in other branches of the law, have an advantage. You have forced me to make that statement. I do think that a general education in the law is of inestimable importance, not only to judges but to the bar. You said do I "share that fear." You have already heard that they do. I do. I think a mind that is more in touch with the general principles of the law makes a more successful judge in any field than you can get if you devote yourself exclusively to one specialty. I am sure of that.

Mr. JOHNSTON. I understood you to say, judge, that in the selection from the circuit and district judges by the Chief Justice of the United States of men to sit on the court of patent appeals that he would have in mind that circuit and district judges have special faculties making them more competent to hear and determine patent cases?

Judge HAND. Yes; I think that is true.

Mr. JOHNSTON. Those faculties have been developed largely by their experience in patent cases?

Judge HAND. Generally not; generally they come with him.

Mr. JOHNSTON. The reason I suggested that, when Mr. Fish was here the other day, he said—I assume from what has been told me by members of the patent bar he has had a very extensive experience?

Judge HAND. Yes; very great.

Mr. JOHNSTON. He said it was a very great disadvantage for a patent case to be submitted to a judge who had the faculties such as you have just indicated.

Judge HAND. That seems to be a clear conflict. He had rather get his case before a judge who can not understand anything about machinery and blue prints. He must have come good reason. I do not know what it is.

Mr. JOHNSTON. He said that he abhorred a judge with a mechanical instinct, to use his language.

Judge HAND. There is a conflict that I must ask you to resolve.

Mr. JOHNSTON. It is difficult for members of the committee to reconcile these apparently irreconcilable positions.

Judge HAND. I should not try. It is quite clear that you can not reconcile two statements of that sort. There is no one for whom I



have greater respect than Mr. Fish. His experience has been enormously greater than mine. So far as I have had any experience it does not bear that out. I can not really agree. As to a man who can not understand a machine or a blue print—I do not see how he ever gets the case. I suppose what he means is this, particularly a man who thinks he has the mechanical instinct. That may have been what he had in mind. A man who does not wait until the lawyers get through. In other words, he is a bit too smart, and jumps ahead and plunges in and the lawyers do not get a chance to say what they have to say. If he means that, I think you will find no difficulty in agreeing. If he means a man who remains open to argument and persuasion, does not think he knows it all before he is told, but still has a capacity for understanding—if he means such a man does not make a better judge than a man who can never understand blue prints, I do not see how it can be so. There are judges who just throw up their hands when they get patent cases. They simply say—not publicly, but I have heard them—“We can not understand this thing.” Sometimes in the appellate court they say, “You will have to do that; we can not understand it.” Surely that kind of a judge is not as good as a man who may have a mechanical instinct. I am sure Mr. Fish did not mean that.

Mr. Prindle has suggested to me, what I had not thought of, going back to the matter of the decrease in the judiciary for the same work, and that the work in the district court would be lessened: you would only have to bring one suit, and an appeal from that would settle it, whereas now you have to bring at least two, and many times more. That is a consideration to be weighed.

Mr. JOHNSON. Have you given any consideration to what occurs to me to be a vicious practice referred to here, the evil of compelling a litigant or inventor to try his case a second time in another circuit under our existing law? I understand that is the practice?

Judge HAND. Yes; but not the same defendant.

Mr. JOHNSON. A different defendant?

Judge HAND. Yes, sir. You can never try the same case against the same defendant. I get my patents fully adjudicated in New York against the X Co. and then the Y Co. in Chicago begins to do the same thing, to make some infringement, and it goes to its lawyer, who says, “I have got some new references here, and I think our courts will take a different view. We have courts not friendly to patents out in Chicago.” I do not mean that is a fact. “If you come here I know that Jenks, who is always against patents, will be on the bench. Simpkins will be on the bench, and they will not follow those fellows in New York. They will take a different view. Judges have certain rules that they follow up to a certain point, and one circuit court of appeals will follow another ordinarily, but the Supreme Court has told us that we can not surrender our individual judgment. If the New York court has said that a patent is valid, if we are sitting in Chicago, we have not got to give it the same judgment absolutely. That is a very different result from what it would be if there was a court of patent appeal.

There is this feature which, I suppose, you have thought of. I have not mentioned it. The court of patent appeals will practically relieve the Supreme Court of patent litigation except in a rare case

where the principles of law came up to be decided. They do not take many now, that is true, but they take some. There is a certain amount to come before them. That is something which would be very desirable because that court is enormously overburdened, as you know, the most overburdened court in the country.

I do not know what I ought to take any more time.

Now, as to the Patent Office bill, that concerns administration in the office, and I do not know anything about that. It is a thing that does not come into a judge's mind much. I only want to call your attention to two matters. One is, I suppose, from lack of completeness of organization in this staff, which is a big one. In a patent case, as you know, the way to beat a patent rightly is to show that the same thing has been discovered before, and you generally can only do that by prior patents. There are some 1,200,000 patents in the Patent Office of our own, and I am told there are 2,000,000 or more, and you can see that it is almost impossible to know all of these two or three million disclosures. It is a pretty big thing.

I mentioned it this morning to Mr. Prindle and he said that his experience corresponded with my own. I very seldom find that the prior patent, what we call the prior art on which the validity of the patent depends, has been discovered in the Patent Office. What happens is this. The examiner makes a search of patents A, B, C, and D, and he says, "Those do not show this invention, I will give the inventor his patent," and he does it. The patentee takes his patent and goes off and he start suing a man because he is infringing him. The man hires a good lawyer, a patent expert, and he spends a good deal more time than the examiner can possibly spend in the office and he digs up a lot of patents that are a great deal closer to his invention than anything the examiner could discover and he comes to court and says, "The examiner did not find it, but here it is." It is very strange that most all the pertinent prior art is dug up by the lawyers; in some way that remains a mystery to me, but we get them very frequently. It is not that we differ so much from the Patent Office when we declare a patent is invalid; we differ from the result of the Patent Office only because the patent examiner has not had facilities at his disposal or the time to find out what really was patented and he has mistakenly given a patent in those cases, assuming we are right, not because he is wrong, but because he has not been able to find out what there is.

I do not know just why that arises, because I do not know enough about the administration of the Patent Office. I am quite sure it comes from being shorthanded and not being able to digest in some proper form that enormous amount of material. You can see it is quite beyond any human understanding without a larger system of indexes and cross indexes. You can see how much extra expense there is in the end due to a lack of proper investigation of these things, because the litigants have to pay experts and they have to spend hours and days. I understand that is the way they get at it.

There is one little detail, the question of royalty. In the southern district of New York where I sit it has been decided that the patentee shall have more right to recovery for his damages than he used. We have done that under the guidance of a decision of the Supreme Court. This statute beyond any question gives the power, although

the statute is not absolute, to award an inventor something and not turn him out of court without anything because he can not show exactly what he has lost. My general feeling has been and I have so decided and I have been affirmed in it, too, that where a mistake has been made, even though the defendant lost something by it, not to say to the inventor because you can not show to the penny what you have lost I will not give you anything. I think we all agree that that is better justice. This is found in the form of a statute and makes certain that power which has been exercised here and there, and I think it is pretty safe to say that that is the law in my circuit.

Mr. JOHNSTON. Do the judges, as a rule, rely somewhat upon the finding of the examiner in the Patent Office?

Judge HAND. Yes, sir; we do rely a great deal upon that. The rule is that we must not disregard his findings unless perfectly sure that he is wrong. That rule does not apply where he has not found in his search the references that the lawyers bring to our attention.

Mr. JOHNSTON. What I had in mind by asking that question was to show the value of the work of an examiner in the Patent Office, that it is so important that the judge, as the final arbiter and who gives the final decision, places a great deal of dependence and security for his position upon the finding of the examiner.

Judge HAND. Yes.

Mr. JOHNSTON. And the examiner is paid what I believe is just a mere pittance for the work that he performs?

Judge HAND. The pay is ridiculously low. I do not see how they get the men they do. I can only say from my experience that it passes my understanding how they get them.

Mr. JOHNSON. The Government pays these examiners such a mere trifle that to me it is a shocking condition. It is also a very short-sighted policy on the part of the Government for the reason that I have inquired and found out that most of these examiners are either lawyers or students studying law. They secure their basic education there, an education which is very indispensable to them in their subsequent work and subsequent employment at the expense of the Government. As a result of the experience which they obtain at the expense of the Government they become possessed of a very valuable information and very valuable knowledge, and then as soon as they reach that position which entitles them to be designated as expert they do what every sensible man wants to do, provide for himself and his family, and they divorce themselves from the Government which pays them this pittance and they go into some other employment either for themselves or they attach themselves to a corporation that requires services such as they can render and which brings them in remuneration hundreds of per cent greater than they received from the Government. I think if the Government paid these men an adequate compensation, four or five thousand dollars a year, for the character of work they perform, the Government would more likely be able to secure their services permanently and therefore get the benefit of the expert knowledge that they have acquired at the expense of the Government.

Judge HAND. As I understand the facts, I do not know it of my own knowledge, you have hit it exactly. It is the ordinary course



for a man who wants to become a patent lawyer to be for a while an examiner. So he gets a general acquaintance with patent law and also a facility for reading patents and understanding them. You asked me how much importance we attach to their findings. The rule, as it is laid down by the Supreme Court, and we ought to follow it, and we try to, is that we ought to follow those findings unless we are perfectly certain that they are wrong. Therefore, as you see, it gives a very heavy presumption of validity in favor of the patent. But that does not apply to things that the patent examiner may not turn up in the office.

MR. DAVIS. With reference to the failure of examiners to sometimes find analogous patents, has not the Patent Office a comprehensive system of indexing and cross-indexing?

JUDGE HAND. They have such a system, but it can not be comprehensive. The proof of that is this situation of which I spoke. I do not know enough about the Patent Office to know about their system, and you will have to ask Mr. Newton and the other gentlemen here about that.

MR. DAVIS. With sufficient clerical assistance and a sufficient force of examiners, do you not think that an accurate and comprehensive system of indexing and cross-indexing would be possible?

JUDGE HAND. It takes more than that, I should say, but you have me now on a thing that I really am not familiar with, because I do not see that side of it. I can only tell you my general opinion. The indexing of patents must be a very difficult thing for this reason, that one machine, in the first place, will embody many different things, and you cross-index it in many different ways. To select out all the classes, subclasses, and sub-subclasses will require something more than a clerk. It requires a man of real imagination. He has got to see how this detail might have application to a case away over here somewhere else or in some way that is not immediately suggested at all. It is not something to be entrusted to people who are not skillful and intelligent. I personally do not know anything about how it can be done. That, of course, is with the people who administer the Patent Office. I only mention that side of this to show you that there is something very wrong in the way of making available all of this mass of scientific knowledge that exists in the form of prior patents, because the Patent Office does not get it. It takes this laborious and expensive search to get at it. As I understand it, the way they get it in the Patent Office is to spend days, weeks, and even months in going over one thing after another, and then they may spot something that the examiner could not possibly have caught. How that is to be remedied, I do not know enough about to have any opinion upon it. Mr. Newton and the other gentlemen, who are in charge of the Patent Office, can better explain that.

MR. DAVIS. Of course, you are aware that under our modern system of jurisprudence, with the tremendous amount of current law publications, it would be utterly impossible for a lawyer or judge to undertake to keep up with the law without a very comprehensive and accurate system of indexing?

JUDGE HAND. Or with it, may I add.

MR. DAVIS. Even then, of course, the lawyer can not anything like keep up with it, but he would be utterly at sea without it.

Judge HAND. He would be.

Mr. DAVIS. It occurs to me that it would be a matter of economy to have that assistance.

Judge HAND. It would mean the utmost economy, and it would save thousands of dollars.

Mr. DAVIS. If every patent that was issued was indexed and cross-indexed from every possible angle looking to future patents bearing upon it, either remotely or directly, it seems to me that it would be of great value.

Judge HAND. I have no doubt that that is done to a certain extent and it may be that every patent now going out may be indexed in a way not to leave anything to be desired. That is a matter that I do not know anything about. I repeat, that I simply mentioned that to show you that it ought to be done if possible. Congress ought to be willing, I think, to enable the Patent Office to make available more than it can make available now this mass of art, because it would save a great deal of expense. Many patents, which ought not to be issued, would never be issued and the public would not be burdened with the false monopoly that they may afford.

Mr. DAVIS. I agree with you, and that is the reason I wish to develop the situation that might exist by reason of having proper assistance.

Judge HAND. How that can be done, I am not able to say.

Mr. PRINDLE. Mr. Chairman, I desire now to introduce Mr. Frank J. Sprague, one of America's foremost inventors; the man who built the first trolley line and made the first successful electric elevator, and who is also the inventor of the system of electrical control of trains which is universally used in the subways and on the elevated lines of this country.

#### STATEMENT OF MR. FRANK J. SPRAGUE.

Mr. SPRAGUE. Mr. Chairman, after that somewhat flattering and very complimentary introduction I hardly know how to proceed. I was asked by Mr. Prindle to address the committee somewhat from a personal standpoint to see if I could from that standpoint advance any argument in favor of these reforms which are now proposed. They cover, I understand, the separation of the Patent Bureau from the Department of the Interior, making it an independent institution; the increasing of the efficiency of the office force; the making simpler the process of getting decisions and returns in the courts; and finally the determination of some better method than that which now obtains for awarding those returns in the case of a successful suit. I have to be a little personal, because that is the only way I can point out my conclusions on some of those matters.

I was formerly a naval officer, but at a time when the Navy was at a low ebb I felt the urge to go out into civil life and take up electrical work. The result is that for about two score of years I have been intensely interested and actively concerned in electrical development. I have been concerned with five epochal developments, and in three or four of them, at least, I have had patents issued to me which are fundamental, and they are so recognized in the art to-day. I started, perhaps, with a little better education and some

advantage over the average inventor, because, having been educated at the Naval Academy, I had had a training which was denied to many inventors. But I was asked to-day what advice I would give to a young man who had the idea of patenting some invention, I would be inclined to say to him that, under the existing condition of the laws, with the restrictions which are imposed upon him, with the difficulty of developing and marketing his invention and the great difficulty of defending what the Government awards him nominally, he had better keep out of it. As I have said, I have taken out a great many patents, and some of them have been fundamental. Some of them have been simple while some of them have been of a most complicated character. Yet I have never yet seen one of those patents brought to final adjudication while it was under my control, despite the fact that I and the companies I represented have spent literally millions of dollars in their development. Some people have the idea that the taking out of a patent on an invention is a simple affair. If you stick an eye in the point of a needle, that is a very simple thing and it is a very clear case, but a great many patents are of the most complicated character. Many of my own have been of that character. One of them was what was known as the multiple unit patent for the control of trains, which had 263 claims.

I remember that at the time when negotiations were in progress between the Sprague Electric Co. and the General Electric Co. some years afterwards for the acquisition of the property of the former company, a property which the General Electric Co. had to have for their own protection, their patent attorney said privately that he thought that perhaps he could break every claim in the patent, but that he could not break all of them. That was contradictory, but I think I know what he had in mind. Now, when a man has an idea that he wants to patent, his motive is generally that of acquiring a profit. As a rule the inventor himself is not able to carry his invention to a point where there is any possible profit. He has got to call in help. At first that help, perhaps, will be of a minor character, but later he will require help in a larger way. His need usually accelerates, until finally and inevitably he loses control of his patents and he must stand or fall upon the result of that series of operations. That has been my own experience during 38 years. The Government wisely provides a very simple way of taking out a patent. Its fees are almost negligible, often not 1 per cent of the cost of getting out the patent. A patent at one time may be taken out in three or four months, but at another time it may require 7, 8, or 10 years, and that is a good part of an active man's life.

In prosecuting his patent he must employ patent lawyers, and when he goes to Washington he, theoretically, is applying to the Government to give him the exclusive right of use or manufacture of some article. Contrary to the experience in many countries, the Government provides a staff of examiners to look up the art and, as far as possible, to force amendment of the applicant's claims, so that when the patent does come out it may have some stability or possibility of support. Judge Hand has pointed out the fact that despite all that may be done in the Patent Office that result is not always obtained. It is the lawyer on the outside who oftentimes



finds the most critical and most instructive references. I have a case pending in the Patent Office now. It has been running along for several years, and I suppose it will run along for some time yet. In many respects it is fundamental, in my opinion, as a basis for the successful welding together of wayside signals on railroads and the braking system on trains so as to prevent that human failure which so often is manifest in railroad collisions. Those examining that case are men of high ability, but are they men who are paid commensurately or as they would be paid in private life? No. Patents generally are examined by men whom I might divide into two classes: First, men who will go out as soon as they have had education enough in the Patent Office or as soon as they feel that in the patent field outside there is a greater possibility of financial return, or they leave because some corporations, recognizing their ability, offer them an opportunity outside at two, three, or four times the salary they are getting in the Patent Office.

The other class of examiners I might divide again into two parts—that is, the incompetent, and there are still some in the office, and those, on the other hand, who are competent but who have gotten far along in life and who have certain responsibilities on their shoulders, and who lack, perhaps, initiative and dare not go out. They are just short of being remarkable experts, but they are good and they are capable men. Possibly, I do not know to-day, personally, a single man among the examiners in the Patent Office that I could call by name instantly if I saw him, although I have conversed with many of them personally. Yet there is placed in these men's hands information of most extraordinary value at times. We place it there without a moment's hesitation. There is a feeling that in the Patent Office there is loyalty, honesty, and decency, and yet it would be perfectly possible for an examiner in many cases to disclose information in his hands which would turn him a fortune and which would be worth millions to other people. Did you ever hear of such a betrayal? No, sir; and I say it to the credit of the Patent Office and to its administration that those men, who are underpaid to a degree that is a shame to our Government, are yet perfectly loyal to their trust. I hope that this committee and Congress will be broad enough of vision to recognize that these men, whose pay has not been increased more than 10 per cent during the last 40 or 50 years, should be paid at least as much in kind as they were being paid three years ago.

There is not a man who does not have to pay his doctor, his dentist, his landlord, and his servant more, and he must pay more for street car fares and for everything he eats. All of these things have advanced from 50 to 100 per cent during the last three or four years, but the salary is just the same. He can not live upon it, and you can not maintain efficiency in the Patent Office unless those men are better paid and unless you provide more examiners so as to enable the Commissioner of Patents to make it possible for the industrial forces to have their patent business taken care of properly. You can not do that, unless these examiners can be paid an amount which will keep them there, instead of having continually before them the temptation to go out into civil life, or having them forced into civil life in order to make sufficient money to pay their household bills.

Now, then, after having gotten a patent, one has been granted something by the United States Government, and not by a State. It is not granted by a group of States representing a circuit court of appeals, but it is granted by the National Government. It is the same as it is in Germany, if I may mention that country. A patent granted by the German Government is not granted for Bavaria or Wurtemberg, but it is a patent that covers the entire country.

In France it does not cover merely the Department of the Seine, Lombardy, or some other part of the country, but it covers all of France. In England, it is not something that is granted for Scotland, Ireland, or Wales, but it is granted by the Empire and covers the entire country. In the United States, it is not something granted by New England, the State of Pennsylvania, the State of Massachusetts, or any other State, but the patent is supposed to cover the whole United States. A man may think he has a pretty good chromo, but he generally has the privilege of sinking a fortune in protecting it if the patent is worth the snap of your finger. He not only has the privilege of sinking a fortune in its protection, but of wasting many years of his life. As I stated, I have never seen one of my patents finally adjudicated while it was in control of the company that originally held it, or while I had a controlling interest in it. Some years ago I invented what is known as the wheelbarrow method of suspension of motors. That method of suspension is now used on every street car in the world. The field magnets grip the axles, while the back part of the motor is flexibly supported by springs above the truck springs. The armature or rotating part of the motor is thereby maintained in perfect alignment with the axle. That was a comparatively simple patent, but I do not believe it was adjudicated for 10 years. It was finally upheld, but it was never adjudicated by my own company while I was with it. It was not until my company had been absorbed by another company, which had more capital, that the matter was brought to a final conclusion.

Some years ago I had the idea that a method of propelling trains in which, instead of having a locomotive pulling a number of cars, each car would be individualized and have its own motor and its own control, just the same as a street car would have, and then to a train-line passing through it there was connected what I call a master controller at each end of each car, so that the cars so equipped could be put together in any order or end relation, and in any number, and then controlled from either end of any car. It would be something like a caterpillar with a number of feet, for no matter what its length it would have the same characteristics as a single car would have. I was residing in New York at the time, and I happened to know one of the directors of the Manhattan Elevated Railroad Co. I had made some money on patents, and this invention, which some other man would have made if I hadn't, because it was simply an engineering development, was, to my mind, so sure to increase the capacity of railroads that there seemed to me to be the possibility of returns to myself of a character which would warrant extreme risks. So I proposed to the Manhattan Elevated Railroad to carry out this scheme on their lines. I said to them, "I will carry a test at my own expense, and I will demonstrate several

things. First, I will prove that you can increase enormously the capacity of your railroad by increasing the length of your trains; I will reduce the strain on your structures; I will reduce your switching charges; I will increase the number of times you can pass a given point in a given time; and I will prove that I can save you \$1,000 per day in coal alone if you will adopt electricity with this system of train control and operation."

I repeated that proposal, but I never could get so much as a look-in, although I proposed to spend \$50,000 personally to prove my contention. I was finally called into consultation in Chicago, and, if you will pardon me, I will give you a little personal incident to show you what an inventor has to go through with. The road to which I was called was known as the South Side Elevated, of which the late Leslie Carter was the president. The road had gone into the hands of a receiver and there had been a complete failure of the steam railroad system. They wanted my opinion chiefly with regard to their control station steam equipment. I saw the opportunity to apply my idea, and I thought it was the salvation of the railroad. I promptly resigned as consulting engineer, and said, "I will take a contract to do this thing." At that time there were in this country three large electric companies, the General Electric, the Westinghouse, and the Short Electric Co. They were doing the entire electrical railroad business in the country. My own company, the Sprague Electric Railroad Motor Co., had been absorbed by the General Electric Co., and I was engaged in the elevator business and in private consultation. When I made this proposal to the South Side road they looked at me as though they thought I was crazy.

I was not a manufacturer at that time of electric motors, and the three companies I have named controlled the entire business. One day I was called to a meeting, and one of the directors turned to me and said, "Mr. Sprague, you have advanced a rather novel idea for the propulsion of trains. Our engineers seem to be very much impressed with it. There are three companies here ready in another way to guarantee their equipment. What guarantee can you give that you can carry out your novel proposal?" The man who asked that question was Byron Weston, the head of a trust company in Chicago. I looked him in the eye a moment and said, "I decline to give you any special guarantee. Here is a contract of \$300,000; I am willing to take it personally, and within two weeks all of these electrical companies will be coming to me wanting to supply a part of the material." I did not tell him at the time that my name was on about \$200,000 worth of paper, and that if I had been "called" I would have been "busted" higher than a kite. Many inventors face that sort of situation sooner or later. Now, it is rather a hardship if, having first originated and then developed an invention—and the development is always a costlier and longer process than the inventor at first thinks—after getting through the Patent Office, and then raising money, and raising it again, and again raising more—I say it is a hardship to then find that someone with a great deal more capital and who is a great deal stronger is ready to take possession of what you have got.

Now, I will quote another instance, because it bears upon another point that I am going to touch upon. After I had equipped the



South Side Elevated Railroad of Chicago—had bought motors, controllers, and a great many other things—one of the great electric companies saw the beauty of this system. I started to equip trains in Brooklyn and then again in Boston. Then came the elevated railroads in New York, and this company adopted an alternative system that failed, and they had to come to my system. The manufacturing company had twenty times the capital that we had, and they took the contract, because the railroad company preferred to deal with a great corporation rather than a small one. We had put a great deal of money in the business—one man alone, John McKay, putting in a million dollars—but my associates had got rather tired of carrying the load, and when they saw this greater company, with the power of stringing out a fight year after year under the existing condition of the law they finally accepted a proposal for the purchase of our company. For the patent assets they paid \$1,400,000 and for the physical assets according to inventory. I had to compromise my royalties, but had I been able to get my people to stand up to their business perhaps a single year longer it would have meant a million dollars' difference to me, individually, simply because in the end the patents had to be acquired. Yet that company had the power to string out the fight for years, because no sooner would it be adjudicated in one place than they would resume the fight in another.

As I said a little while ago, a great many patents are complicated and they are far-reaching. You take railway patents, for example. Suppose somebody has a system for automatic train control and he wishes to introduce it on some trunk line. You realize that a trunk line runs through many States and through various circuit court districts, so that a situation might easily arise in which the railroad could use the system on one part of its system and could not use it on another part. It seems to me that when a patent has been adjudicated and fought hard before a district court, instead of being carried, as it may be, to nine different circuits, as is possible to-day, it should be carried to one higher court of greater ability and experience, whose decision would be practically final. Most men have not the heart and they have not the capital; they simply can not carry it through; it is not within a man's lifetime to do it. Almost all matters of that kind, where patents are of great importance, are finally compromised on some basis—that is, one concern buys out the other company after the latter has simply spent all it has, or men die and they go off the board.

Now, as to the manner of adjudication and what shall come to a patentee in case his claims are adjudicated in his favor. I believe the present practice is that a man shall receive the profit which the infringer has made, often a most absurd and impossible basis, unless men were making hooks and eyes, or pins, or something which is definite and concrete. But suppose a company were equipping a railway, supplying for example, motors and controls; the controls might be the vital thing, how vital you may judge when I tell you that the value of the multiple-unit control to the city of New York alone in the development on its subway system, is over \$100,000,000, because it has increased the capacity of the roads in such a way that the getting of equivalent, capacity in any other method would have

cost the city an additional \$100,000,000. Now, we will say that company is supplying that whole system with motors and controls, the controls being patented by somebody else, and finally a decision is made against the infringer and he is ordered to account for his profits. It is not beyond the possibility, and I know it oftentimes to be the case, that of the two, or three, or dozen things supplied the thing that is subject to patent dispute is listed at a nominal cost, or without profit and the real profit is made on the balance. What possible benefit is it to the man, then, to have the "profits" given to him? It means nothing, he has already had his own profits taken away, also his name, reputation and standing, if you please, and all that remains is the poor satisfaction of a decision in his favor with the privilege of taking the profits if he can prove there have been any, nothing in that particular device because switched over to something else. That is no uncommon thing. It is like a department store where they sell an article to-day, like handkerchiefs, stockings, or something else, at a price below the price in other stores, the idea being to bring in trade which will purchase something on which they can make a profit. There is no difference between manufacturers and department stores in that respect, because they divide their business for their best interests.

The CHAIRMAN. We will recess until 2 o'clock p. m.

AFTER RECESS.

#### STATEMENT OF MR. FRANK B. SPRAGUE—Continued.

MR. SPRAGUE. Mr. Chairman, I do not want to burden the committee or trespass too much on its privileges. I can hardly give testimony in a matter of this kind without touching on my own affairs unless I am asked questions by somebody who wants to know my opinion about some particular thing. My own experience has been replete with developments that have taught me the necessity of getting a patent out of the Patent Office as thoroughly digested as possible. That is the first thing to do because the development with your own money if you have it, or with the money of those capitalists whom you get to go along with you, is so long and so often disappointing that if in addition to the commercial development you have an unsatisfactory patent situation, one which is going to cost a great deal to bring to a conclusion and when you do bring it to a conclusion leave you in the air, you would better never begin. As I say, experience has taught me the necessity and the very great importance of the predigestion of the case in the Patent Office, and that is why I feel very strongly in the matter—

The CHAIRMAN (interposing). Along that line, you feel that a well organized and competent force of examiners and assistants, as well as a competent clerical force in the Patent Office, is first of all a fundamental necessity?

MR. SPRAGUE. I think it is not only a fundamental necessity, but I would put it ahead of everything else. Of course, I am not a practicing lawyer or a judge, but I believe that an efficient Patent Office force would tend to lessen the duty of the courts, their time, and the general cost. I believe there is no place in the patent system where

you can begin a reform that will have more immediate effect than to make the Patent Office just as efficient as is possible by enlarging the force and paying the men a sufficient salary.

The CHAIRMAN. You heard Judge Hand's statement this morning that many times the representatives of one interest or another, after a patent has been granted by the Patent Office, come to Washington, and after a more thorough search find enough in the way of interference to give them a case in court, which sometimes results in a patent that has already been granted being declared invalid?

Mr. SPRAGUE. Yes.

The CHAIRMAN. Your idea is that a more careful examination by a sufficient force would get the examinations through in due time and make then so thorough that there would be less likelihood of mistakes being made?

Mr. SPRAGUE. Yes, sir; I do; and a judge would have more respect for the findings of the Patent Office.

The CHAIRMAN. And your idea is that that would result in less litigation?

Mr. SPRAGUE. Yes, sir.

The CHAIRMAN. And less likelihood of inventors having mistakes made and less likelihood of there being long litigation?

Mr. SPRAGUE. Yes.

The CHAIRMAN. Is that one reason why you favor this bill for the reclassification of the Patent Office?

Mr. SPRAGUE. Yes, sir.

The CHAIRMAN. And it is due to your own experience?

Mr. SPRAGUE. Yes. If you could take a complicated case and have the transcript from the office in front of you, and see the changes which are continually made in that case, whole pages and sometimes chapters actually taken out of the specifications and altered, due to the history that is being turned up by the patent examiners, incomplete as it is, and the other history which the patent attorneys and the inventors, in their development and their study of the case, also turn up, you would understand why all of those things lead, in some cases, to hundreds of changes in a patent before it gets out of the office—changes in the phraseology of the specifications and especially in the claims which are made. In any serious case I would say that no patent ever issues in the form in which it is originally submitted to the Patent Office. It is a pretrial, if I may say so, in which the patent examiner on the one side and the patent attorney—very much more highly paid, backed by all the resources of the inventor and the capitalists behind him—on the other, the inventor trying to get his side before the Patent Office and the Patent Office trying to find out the facts.

The CHAIRMAN. You spoke this morning about your experience as an inventor in getting your inventions on the market so that you might receive some benefit from them?

Mr. SPRAGUE. Yes, sir.

The CHAIRMAN. I believe you stated there was not a case in connection with any of your inventions where the thing had been adjudicated before the control of the patent passed out of your hands?

Mr. SPRAGUE. Yes. I can give you illustrations—dozens of them.

The CHAIRMAN. Questions were asked here the other day about the suppression of patents?



Mr. SPRAGUE. Yes, sir.

The CHAIRMAN. In other words, making it almost impossible for an inventor to market, in an industrial way, his patent and get the benefit of it because some large institution put many stones in his way, legal and otherwise, until they eventually got control of that particular invention, and then placed it on the shelf; in other words, suppressed it. Have you any idea as to what ought to be done in a case of that kind?

Mr. SPRAGUE. That fact exists; there is no question about it. Sometimes the excuse is quite apparent, and that is that a company has already built up a practice based upon certain mechanisms, and while a new mechanism, if it started even with it, would accomplish that result better, more cheaply, or more efficiently, to introduce it after the other organization had been built up would mean such a change in practice and such a large investment of capital that a company would be very reluctant to do it; at the same time they do not want to see somebody else come in and do the same thing, take it up, because such a company might perhaps be a very dangerous competitor. That practice of taking inventions and putting them on the shelf is quite common.

The CHAIRMAN. There is some doubt in the minds of many Members of Congress, and there have been discussions of the matter before this committee—not this committee but previous committees—as to the advisability of giving patent protection to an invention of that kind, where the control passed from the hands of the original inventor. I will give you an illustration. Take, for instance, the telephone system of the country. There is what is known as the manual and the automatic.

Mr. SPRAGUE. Yes, sir.

The CHAIRMAN. The control of the automatic, after being installed in a number of cities, eventually passed into the hands of those who control the Bell telephone system of the country. They control it, but they do not institute it, and there is a very good reason on their part for not instituting it. One of the reasons is tremendous duplication and the fear that possibly the wireless telephone might come into being; nevertheless, it is protected by patent rights and is shelved and the public is denied the right to use the automatic telephone simply because the people who have a monopoly on the other—and the telephone business is almost a monopoly—have secured control of the invention of some inventor who, after a great struggle, finally compromised with them by selling out. I know that was the case in California, and I believe that was practically the case all over the country. That is in the minds of a good many men who have sat on this committee from time to time, that there ought to be some limit to the protection on that sort of an invention.

Mr. SPRAGUE. I agree with you. I believe that if a corporation gets control of an invention and then pockets it that there ought to be some restriction as to its exclusiveness; that is, it ought to be perfectly possible under some equitable provision to have good inventions resurrected and used.

Mr. JOHNSTON. What corporation or business enterprise are you connected with now, that is, the one you are actively connected with now?

Mr. SPRAGUE. Well, the one I am particularly active with now is what is called the Sprague Safety Control & Signal Corporation. It is a corporation which is developing a system of automatic train control, thinking that in the end railroad operation will require the arraying together of the way-side signal system and the braking of the trains.

Mr. JOHNSTON. Is it a large corporation in respect to the number of employees it has?

Mr. SPRAGUE. No; most of our work has been laboratory work, and yet the development has already taken, including the two years of war, about 7 or 8 years, and the company has spent \$400,000 in cash. Now, if I may trespass on your patience I would like to touch upon that situation for just two or three minutes, and show you the difficulty that many inventors have in attempting to introduce something new which trenches upon something which exists. You know that almost all first-class railroads are protected by way-side signals operated by what is called the automatic signal system, a thing which is vital for the dense operating conditions. The trains are equipped, on the other hand, with very perfect braking systems, but every now and then there is a disastrous collision, despite the fact that the conditions surrounding that collision may have been perfect, so far as the operation of all the mechanism is concerned. You know there was an accident in New York very recently where quite a number of people were killed.

The CHAIRMAN. The fact of the matter is that legislation had to be enacted before they installed some of those safety devices?

Mr. SPRAGUE. Yes. One of the hardest things I have had to do is to meet the conditions which exist, and another difficulty has been the overcoming of the prejudices of those in the habit of doing things in certain ways, and then, on the other hand, the multitude of proposals for a somewhat similar thing, good, bad, and indifferent, the number and character of which may be indicated by the testimony given some time ago by the signal engineer of the New York, New Haven & Hartford Railroad Co. before the Division of Safety of the Interstate Commerce Commission, in which he stated, in substance, that about 4,000 proposals had been made to his company for automatic stops, of which two had been found promising, one of which had failed immediately on trial and the last was being considered for trial. After five grave accidents in a short period on their road they offered the munificent sum of \$10,000 to anybody who could produce a perfect system of automatic train control. Well, as I say, we have spent nearly \$400,000 in getting there, and we are not perfect yet, although I think we have something that is worth while. But that is a sample of the difficulty. Take the electric elevator business. I conceived the idea that electricity should be the prime motive power for elevators.

It has proven to be correct, and that was a good prophecy, but in starting that business I had to meet the existing commercial situation dominated by the Crane, Hale, Whittier, and Otis hydraulic elevator companies, who had built up the elevator business of the country, and to whom builders, architects, and everybody looked and upon whom they relied. Well, I fought that thing through all the way from Massachusetts to California, and finally brought my

company into a situation where we forced a consolidation of interests, but not until we had first lost \$800,000. I had started that business with a few thousand dollars, simply for experimental work; then I tried to raise \$50,000, but the man who undertook to raise it laid down, and I had to find a way to do it. Then we went on to \$1,000,000, then to \$1,500,000, and then to \$2,000,000. So the man who starts in the development of inventions may sometimes be fortunate in having a hook and eye or something else which is not very elaborate to build, or which can be readily exploited, with a reasonable gift of gab, but if it is a thing that is complicated, or which trenches upon existing situations, he has a long and tedious fight ahead of him, and most inventors go down. So I would like to see, if it is possible, in the Patent Office a corps of men who not only have honesty, zeal, and devotion to their business, as the present examiners have, but who are assured a living salary; I would like to see them expand. It is not quite fair, when everybody from a boot-black up gets an increase in salary, that the men upon whom the industries of the country so much depend should be left in their present unenviable position.

MR. JOHNSON. Do you know, Mr. Sprague, from your extensive and varied experience, where private enterprises and corporations have been able to secure competent skilled draftsmen for a wage less than \$30 a week?

MR. SPRAGUE. You could not go into the market to-day and get many competent skilled draftsmen for less than that.

MR. JOHNSON. You are aware that this proposed change increases the pay of skilled draftsmen to \$30 a week?

MR. SPRAGUE. I do not know the details, but only that general increases have been suggested.

MR. JOHNSON. While I am interrogating you about that there is one other thought that came to my mind, suggested by the question asked by Mr. Nolan in reference to the suppression of patents. Have you heard or have you any knowledge or information sufficient to justify a belief that it is a practice among some corporations to have a department or a corps of assistants for the purpose of stealing patents?

MR. SPRAGUE. No; I have no such knowledge, and I would rather question that, but I would not say that is not possible, because it is so. However, all large corporations have their corps of expert patent officials and assistants, their libraries and their cross-references, and a great collection of literature, and experience bearing upon their particular business. Take any one of the great electrical corporations, like the General Electric and the Westinghouse companies. They manufacture thousands of different things, and for their own protection they must have the literature of the art. They know it better than they know it in the Patent Office, and they must know it, for their own purposes. Their men are studying the situation all the while, so that when a matter is brought up to them for their consideration from the outside, for their own protection they have to know what the possibilities are of success in combating a claim that may be made. It is pretty hard on the outside inventor sometimes, because all these companies have their millions, while he simply has his dollars, and very few of them oftentimes.



I know few really successful inventors; generally, if they come out ahead of the game, it is after a good many years of fighting, and it is because they may have gotten with them a lot of financiers who are powerful enough to make it politic for some sort of a compromise, but it sometimes costs high to get that kind of backing. I will give you an illustration. I was once developing electric elevators, and following the law at that time the stock to be issued at par for either property or cash. Well, a part of it was issued to me for property: that enabled me, when I was selling the balance of the stock, to let go some of my stock so as to cut the price to purchasers to something less than \$100 a share, and I did my best, as I have gone ahead and got first one person and then another interested in the enterprise.

I think the lowest net price at which any of the stock had been taken over was about \$55 a share. One day I walked into the office of one of the most prominent financial men in this country and laid the matter before him, because I thought that he was interested in so many things that his name and influence might be of great possible benefit. I asked him if he would become one of my stockholders. After glancing over the prospectus he sharply said: "I'll give you 30 for a thousand." He nearly knocked the breath out of me, but I took the offer because I hoped, vainly as it proved, that he would help me in the business.

The CHAIRMAN. What did he say to you first?

Mr. SPRAGUE. "I will give you 30 for a thousand;" that is, he would give me \$30 a share for a thousand shares, instead of \$50, or \$60, or something like that, which I had tried to get. That is the thing that an inventor has to face. He has to go to moneyed men because, as a rule, he hasn't the necessary capital. I have been an inventor many years and have always had to raise money. Now and again I have had money, but I have always had to go outside in addition. I have had to do my level best to try to keep these men in line, for the delays have sometimes run for years after they became interested.

I was a little interested in the questions which you addressed to Judge Hand this morning, when you quoted what Mr. Fish said about the characteristics of judges. The attitude Mr. Fish took, as I understood it, was that he did not want a judge who had any mechanical knowledge.

Mr. JOHNSTON. He said "mechanical instinct."

Mr. SPRAGUE. I think, as a matter of fact, it is a very good thing if the judge has some mechanical instinct. There are thousands of things that may be put before him.

The CHAIRMAN. It is better for the inventor and safer for the lawyer?

Mr. SPRAGUE. The lawyer can not quite put it over on the judge so easily.

The CHAIRMAN. That is what I say.

Mr. SPRAGUE. I happen to know something about the litigation that Mr. Fish has been interested in. I have been considerably interested in it myself. Mr. Fish is one of the ablest lawyers of this country, and one of the most adroit. I can easily understand why he would prefer not to have a judge who had some mechanical

instinct, because he, himself, has sufficient knowledge to then more easily lead a judge to his way of thinking. I think the kind of a judge we need is one who has broad legal knowledge and a lot of horse sense, patience, constructive sense, and some mechanical instinct with it; who can see straight when things are presented to him in a fairly clear way. You can not safely put many things up to a poorly equipped judge any more than you can put a mechanical development up to a woman.

The CHAIRMAN. That is, a judge with mechanical instinct as well as a legal mind?

Mr. SPRAGUE. For the same reason I think that a young man should not be educated alone along technical lines. He should have a broad academic education, and then let him specialize afterwards.

Mr. JOHNSTON. If you wanted an advocate in a patent case, would you not want a man who had not alone acquired legal training but necessarily a mechanical knowledge?

Mr. SPRAGUE. Yes, sir; decidedly.

Mr. JOHNSTON. If that is true that that is the kind of an advocate you want, would you not prefer to have that kind of a judge?

Mr. SPRAGUE. I would want him to have some training, but I would not want him to have that alone. I would want a man with broader sympathies, with a broader view, a man who could see both sides of a question. I have found many times in talking with men that even were not technically trained they have gathered the gist of the thing that is explained, and perhaps a little better than if they had had a more narrow training.

Mr. JOHNSTON. Have you any suspicion at all that the members of the patent bar are very anxious to obtain as judges of the patent court of appeals, this proposed court, men who have no mechanical training whatever?

Mr. SPRAGUE. I do not think so. I think the members of the patent bar simply want to help shorten the time in getting a decision, to clear the docket, and not try the same question over and over, first in one circuit and then another, because the ingenuity of a patent lawyer or a patent advocate in going from one circuit to another and in finding a new ground on which he can make an attack or make some new ingenious defense is remarkable.

Mr. JOHNSTON. A successful patent lawyer is the lawyer who can secure the most delay?

Mr. SPRAGUE. Yes; if he is on the defensive.

Mr. JOHNSTON. The reason I suspected that is because I happen to be a practicing lawyer who knows nothing about the administration of the patent law, and I have been delayed in reaching my cases on the docket because a number of patent lawyers—eminent and distinguished as some of the gentlemen here—have always resorted to the method of delay, and they can delay a case from being tried longer than anybody I ever knew, and it has occurred to me that if I were a litigant in the court I would be looking, as some of these men, for a lawyer who could secure delay rather than a lawyer who could obtain a decision.

Mr. SPRAGUE. The lawyer on the defense, not on the offensive side. It is not the aggressor, it is the defendant. In the criminal and civil

law it is the same way, the man who is for the defendant in the case always seeks delay.

Mr. JOHNSTON. There is an axiom that "Justice which is delayed is justice which is denied." It is shocking to me that they can continue these cases over a number of years and prevent them from coming to a hearing, and then the practice which permits them to take a case from one circuit to another and continue that condition for another period of some years; that to me is a shocking condition.

The CHAIRMAN. I can imagine that that is one of the best reasons why there is such force behind this patent court of appeals. Take the case that Mr. Sprague is interested in, where they wanted to string the thing out for the purpose of compromising as to the amount of money; but the idea of the patent court of appeals is to limit their opportunities to do those things and to bring it into one particular court.

Mr. SPRAGUE. That is a fundamental.

The CHAIRMAN. I imagine that a number of the patent lawyers who represent the big corporations are just as ingenious as their clients, the inventors.

Mr. JOHNSTON. That is a sad reflection on the lawyers who appear for them, or else it is a sad reflection on the system.

Mr. SPRAGUE. It is on the system. There are many ways to delay a case. If a man is fighting for his life, or if he is fighting to prevent the restitution of property, he can delay the case in many ways, by this or that motion, by one plea after another. It is the same way in the patent business. They can string out expert testimony from here to San Francisco; you can buy expert testimony—as much as you can read.

Mr. JOHNSTON. The members of this committee who are lawyers never resort to that practice, you understand.

Mr. PRINDLE. We would not be here if we did not want to expedite things.

The CHAIRMAN. I think the patent lawyers want to get this relief, because they are up against the same thing for their clients, who are the inventors, that the inventors are up against with the big corporations.

Mr. URINDLE. I am the patent counsel for the Du Pont Co., which is well able to do those things, but that company is in favor of this bill. So, I do not think the big interests are universally that way, but it is a means of oppression when they want to use it.

The CHAIRMAN. I can say as a member of this committee that the reason we have not had any legislation for six years is largely due to the fact that the patent lawyers representing the interests of this country have delayed for months and months and months hearings so that final results could not be obtained on the bills.

Mr. SPRAGUE. I would personally prefer to have a single body of competent lawyers with fair mechanical sense and instinct to try the case for once and all time than to have the inevitable delay which follows now. I would trust the first presentation and first decision, but I should want it for the entire United States. I would not want to have it done in every circuit court in every State. A man can not live through that; he does not have the money and time.

Mr. PRINDLE. Mr. Chairman, may I ask Mr. Sprague a question?



The CHAIRMAN. Certainly; I am sure that the committee is agreeable.

Mr. PRINDLE. Mr. Sprague, suppose you had sold an invention to a company, and that company had spent hundreds of thousands of dollars and a number of years in developing the invention, getting it on the market, and a patent appeared for an invention which could compete and the company was unable to buy it and suppress it, to use that term—suppose the law made that invention public if it were tied up and suppressed for a certain number of years, so that they were faced with the alternative of going through that period of development again with the second invention before they could reap a dollar from all their efforts, suppose they did not have the money to go through that second period of development and they were faced with that situation, do you think that they would ever buy a second invention from you or any other inventor; in other words, if a patent became public because it was bought and put on the shelf, would it not destroy the market for inventions?

Mr. SPRAGUE. I do not think that is quite a fair statement of it. As I understand, the chairman called the attention to the fact of putting patents on the shelf, and if I may try to express your point of view, Mr. Chairman, it was that there should be some restriction in the protection that the patentee would have if the patent is going to be continuously left on the shelf and no development made when there should be some. I feel about that very much as a consulting electrical engineer does when dealing with an increase of a central station. He might have three engines and three generators all alike, pretty good machines, and the question would arise how to expand the station. There may have been better generators and steam equipment developed by the very company that put in the first, but I should be very loathe to adopt, perhaps, the better machine, because it would not work in harmoniously with the balance of the equipment. I would rather expand the equipment although with units not quite so good, so as to have a harmonious whole. I would not want to run two different central stations. I would not want to be compelled to do that. I would rather go ahead on the basis of the development of the first. I think that an organization that has built up a business and spent its money in developing a machine should be obligated to go ahead and spend an equal amount in developing something else, but I do not think that it should be privileged to buy up things of equal initial value, pay a song therefor because of having compelled the man to go to the wall, and then put it on the shelf.

Mr. PRINDLE. No matter whether the new thing would render their initial investment worthless or not, if they allowed it to go into competition?

Mr. SPRAGUE. Yes. A company would not get the new thing, if it was valuable, for a trifle because forced to it, because if the inventor had any money to develop it himself he could build up an independent business. It is rather a difficult question to answer. If a company is willing to pay a reasonable price, there is a question whether it should develop it afterwards, but if it obtains it for a bagatelle by driving the man to the wall when it might have been an effective competitor, then I think there should be some restriction placed upon its patent

life. It depends very largely on the spirit in which the people get the property and the spirit in which they use it afterwards.

The CHAIRMAN: In this case the value of the invention is determined by the protection it gets through the United States Patent Office?

Mr. SPRAGUE. That is only one item.

The CHAIRMAN. It says to the original inventor and those associated with him, "We guarantee you protection."

Mr. SPRAGUE. Yes, sir; that is quite true in theory——

The CHAIRMAN. When we grant that protection it is expected that the invention will be put on the market, but when he goes up against the fellow who now holds the market he pays him his price and that settles it and they put it on the shelf. Why should we give to an invention of that kind the same protection as is given to an invention that is going to be utilized, put to its most beneficial use for the benefit of the public? We have heard exposition after exposition here of the value of the patent system, I am referring to the inventor or those associated with him, of being of great benefit to the public. Mr. Fish has told us that a thing that goes on the shelf is of no public benefit, that it is used to protect the other fellow's investment.

Mr. SPRAGUE. Oftentimes it is put on the shelf temporarily. A good many things are bought by any organization which is dealing with large problems on a chance that they may develop it, and it may be that while on the shelf they may develop something a great deal better. In my business I have often spent a great deal of money for apparatus, and when completed it may do what I claim for it, but suddenly I will run up against some fixed practice and I have to shift from the thing developed to something which meets the situation a little better, and then I put it on the shelf.

The CHAIRMAN. That is not what I had in mind. I have in mind something that has been developed, something which has been developed to its full capacity and where there is no question about its usefulness, being better than that on the market, but simply because it interferes with something that another big corporation has and that is likely to become competitive in the hands of the original inventor or those associated with him, they force that man to dispose of it through methods which you suggest were compromising, and it is never put in use, but put on the shelf. It is not because it is of doubtful value, and it is not because there is something on the market that is just as good or better.

There is the automatic telephone, a company that is controlled by the telephone system of this country and at one time a competitor in the field of telephones, and they shelved it for its patent life. Everybody agreed that it was useful, workable, and more convenient to the telephone user than the manual. The question is whether an invention of that kind should receive 17 years' protection along with an invention that is put to a beneficial purpose.

Mr. SPRAGUE. Permit me to ask you a question in return. What effect would that have upon inventions and the sale of inventions if too great a restriction is placed upon an invention that is transferred from one ownership to another? Presumably in that particular case those who developed the automatic telephone system—admitting, if you please, that it is a public utility and its general

usefulness—spent a great deal of money, not merely the inventor, but the people who developed it from a commercial standpoint. I assume also that they probably arrived at the point where they were willing to take an immediate instead of a delayed return. They had a property which, if it was as useful as they believed, could be developed by additional capital, and if the commercial returns were sufficient the capital could be gotten, but instead of doing that I assume they sold it to the Bell Telephone, and must have got a return somewhat commensurate with the assumed value, receiving therefor their commercial reward. I do not know anything about the details, but suppose they had gotten as much as they believed the system was worth. I question whether the purchasers could be blamed if they did not prosecute it any further when it might interfere with their own business without appreciable public benefit.

The CHAIRMAN. That is just the point. Here is the situation that developed. The automatic telephone was developed to an extent where they were able to get large financial backing. They had it installed from the Atlantic to the Pacific, not completely connected up, but in some places of the country. In the State of California they had it installed in a large number of cities. In my own city they paid quite a big price I know in December, 1906, after the fire, to get in. The other system paid the same price to keep them out. The men in control took from both and then let them come in. It was installed all over the State and became a serious competitor. I believe that the telephone is a natural monopoly. Whether it should be under the control of private interests or the State is another question. It was installed and the people desired it. The time came when it was becoming a real competitor, and they sold out to the Bell Telephone system. They not only sold their property, but sold their patents, and wherever they could take it out and scrap it that was done. They had a hard time out in San Francisco because of certain obligations under the franchise, but eventually they did it. They refused to render telephone bills to those who had the automatic or "home," as we called it, and they refused to receive any more subscribers, thereby restricting the service to such an extent that it did not give as good service, and, as a matter of fact, the result was that the people got tired.

The cost of taking over the automatic telephone system was great to the Bell Telephone system, and in scrapping it they gave them cash and they gave them stocks and bonds, and upon those stocks and bonds they must pay dividends and interest and the public must pay the price. The value of that automatic telephone was the protection it got first of all through being patented and through that patent they were able to finance the investment to such an extent that it became a real competitor. That is on the shelf, except in a few localities of the country to-day. The thing that I want to know from a practical inventor is, do you think that we should differentiate in the way of protection to an invention handled in that way and an invention that is put to its most beneficial use for the public? That is where it has cost the public a great many dollars in increased rates, undoubtedly, because it is a fixed charge on the telephone system of this country getting rid of the thing and scrapping



it. That is exactly where the thing comes back to the people that give it the protection.

Mr. SPRAGUE. I do not think that I am familiar enough with the situation—

The CHAIRMAN (interposing). Do you differentiate between that and your case where you might find something better?

Mr. SPRAGUE. I do not think that I know sufficient of that situation to really give an opinion about it. I agree with you that the telephone is a natural monopoly, no matter whether under governmental or private control. One of the essentials of the telephone business is that there should be, as far as possible, uniformity of practice, and means for connecting up one locality with another through trunk lines. We wish to be able to speak from here to San Francisco, if possible to New York or Boston. Of course, that means that you must not only have local systems which are properly coordinated with each other, but you must have trunk systems which can be coupled up. I do not know enough about the automatic telephone system to know whether that is possible, or whether two local systems could cooperate and be brought into one harmonious whole. I think it would be a mistake to scrap the automatic system if they could be brought into a working unit. Then, there may have been some reasons from a commercial standpoint why they must stand the loss of that system. If, on the other hand, the automatic had proven to be much superior to the other they would, perhaps, have scrapped the other instead.

The CHAIRMAN. The only reason it was very carefully gone over was that there was not any question about it being more economical, because it practically did away with the central operator; that is, almost in its entirety. They did not know in the development of the telephone just exactly what the next step would be, and some new development might take place that would undoubtedly bring about the elimination of the automatic as it existed at that time. That was one very good reason. I am only saying that to show you that that is an invention that has been scrapped. Its practical working was demonstrated, but it has been shelved—a great invention has been put on the shelf.

Mr. SPRAGUE. Not only an invention, but a working system. Why did not the public service commission of the State object? They constitute an instrument for the protection of the public in a matter of that kind. It seems to me that would be quite irrespective of the patent question.

The CHAIRMAN. Have you taken into consideration the fact that practically everybody who appears here has always made the public of this country the paramount party as far as the eventual value is concerned, and in the meantime the inventors, while the Government affords total protection in a financial way to the inventor when it grants a patent. In the case which Mr. Prindle cited, the wonderful development of farm machinery, the public was the beneficiary. I am showing one instance where a thing was shelved and where the public paid for it.

Mr. SPRAGUE. Of course, that is a little different from the point that I had in mind.

The CHAIRMAN. I have probably drawn you too far into that. That is not altogether before the committee at this time. We do not

very often have men who have had your experience, over 30 years, to appear before the Patent Committee.

Mr. SPRAGUE. I am very glad to give you the benefit of my experience.

The CHAIRMAN. When you come here you must give us the benefit of your experience so that we can get some idea as to what is wrong with the patent system. That is one reason why I tried to develop that question and while it is not particularly concerned with this legislation we do not always get such a gathering of men both from the legal as well as the practical standpoint, and that is one of the reasons that I wanted to ask you that question.

Mr. SPRAGUE. There are many cases where people are forced to the wall and the inventions are taken over and then prosecuted beneficially. I know that is so in the electric field. There are many instances where the man has at stake all of his own resources or that of the friends assisting him, until when it becomes a growing business, and is sufficiently promising, some larger companies are apt to go into it. It generally winds up in the purchase of the smaller company. Then they are very apt to continue its business. The larger electric companies maintain a number of smaller companies which they absolutely control. My old company, the Sprague Electric Co., the last corporation that I was interested in until my present one, has works at Watsessing, N. J. I have never set my foot in the works since the General Electric Co. took control, yet those works are maintained under my name and a business has steadily developed.

The CHAIRMAN. Do not misunderstand me. I am not apposed to consolidations of that kind. I think sometimes that we make a mistake and go too far to stop those things. What I had reference to was this. For instance, we give protection to an invention that is suppressed entirely, it is taken away from the use of the public for 17 years. I do not believe that it should get the same protection as the invention that is put to beneficial use.

Mr. SPRAGUE. I know there are cases of that character. I know that many things have been invented and then put on the shelf. I think that is particularly true in the telegraph business and to a certain extent in the telephone service.

Mr. DAVIS. What do you think about the advisability or feasibility of having a provision in the law to the effect that if a patent should be suppressed for a specified number of years, the patent protection should terminate? I ask you that question, not so much from the standpoint of the inventor or manufacturer, as from the standpoint of the people as a whole, for whom all legislative bodies are presumed to act, generally speaking.

Mr. SPRAGUE. I think that it would be quite possible to consider favorably withdrawing a part of the protection which is given. For example, I do not think that because a thing is put on the shelf it necessarily means that it is to be left there, but if it is left there for several years, I think that perhaps you had as well have the patent protection withdrawn. As a matter of fact, it would probably be displaced by something else long before that. The advance in the art is so rapid that a thing which does not appeal to the patentee or purchaser as being of sufficient importance to warrant development after having held it for years, might as well be discarded.

Mr. JOHNSTON. Mr. Prindle, who is a lawyer of Patent Office experience, told us that there was some rule in the Patent Office, or rule of law which prevails, to meet that very situation. I have in mind this, that when a patent is granted it is granted for 17 years. There is no longer any provision for a 10 years' renewal. Is there not a two years' limitation? In other words, two years after a patent is issued, if it is not used, does not the man to whom it is issued take the risk of having it interfered with?

Mr. PRINDLE. No, sir. That precise question was decided by the Supreme Court in the Continental Paper Bag case, where the patent had never been used by the Continental Paper Bag Co., and yet it sued and enjoined a competitor from using it. The Supreme Court held that the object of the patent law was to induce a production of inventions and to add them permanently to the fund of public knowledge; that the payment for the production of an invention was the right to manufacture it for 17 years, after which the invention was open to the public forever, and that the patentee had the right to do with it for 17 years as he pleased. Mr. Sprague will bear me out that many a patent when it is issued seems to be unpromising, and it is not advisable to manufacture it, because it will not be profitable, but as the art develops and as changes come through the years, that invention becomes important. Then the manufacturer can and does manufacture under that patent. He has really not been suppressing it during those idle years, yet such a provision as you spoke of here would cause that patentee loss. In the meantime, it would react upon the inventor, because the effect of it would be to shorten the lifetime of the patent, making it that much less desirable. It would, therefore, become more difficult for the inventor to get a return.

Mr. JOHNSTON. You have not stated a parallel case. I did not have in mind the inventor, and as long as the patent remains in the hands of the inventor, I would be in favor of allowing him to do as he would with it; but where it is apparent that somebody else has secured control of the invention for the purpose of putting it on the shelf and denying the public the benefit of it. I would like to reach that case. That is the case we are trying to get at.

Mr. SPRAGUE. I agree with you, that where it is clearly a case of that kind there should be some restriction.

Mr. JOHNSTON. I would not interfere with the inventor. He might hold it as long as he wanted to.

Mr. SPRAGUE. That brings me to a suggestion about an abuse which used to be very common in the Patent Office among patentees. The inventors, according to the old rules in the Patent Office, could conduct their cases in such a way as to be utterly inequitable, so far as the development work by other people was concerned. Very happily, especially during the administration of the present and the past commissioners of patents, that particular abuse is in fair way of being very largely eliminated. The abuse I refer to was that of holding the cases in office by the inventors by every trick and device possible while they watched the art developing in that particular direction. Commissioners Ewing and Newton have by means of rules regarding interferences and by fixing a time which must not be exceeded in taking action in the Patent Office, largely eliminated that abuse. A few years ago it was an abuse which reflected discredit



upon many of the inventors of the country, because they laid there with their matters waiting for the unearned increment that capital was creating all over the country, and holding off the issue of their patents.

The CHAIRMAN. That would be practically extending the life of a patent?

Mr. SPRAGUE. Yes, sir; thinking that its value would be created by somebody else. They responded to office letters once every two years. That abuse is being eliminated, and there has been great reform in the Patent Office in the last four years.

The CHAIRMAN. I think the committee would be rather sympathetic with the idea of keeping that going in a legislative way.

Mr. SPRAGUE. We are anxious to see things expedited.

The CHAIRMAN. We are very much indebted to you, Mr. Sprague, for your appearance.

Mr. PRINDLE. I do not want to prolong the discussion of this subject which is not related to the bills that we have before us, but I wish to say that the proposition to make such a provision concerning the lapsing of a patent for nonuse or suppression is something that would have to be considered very carefully, because it would cast a cloud on patents in general. Suppose a man innocently has not made use of a patent: This would accuse him of having suppressed it. It is a question of intention, and one judge or one jury might look at it in one way and one in another; so that those who would be inclined to buy patents would say, "Patents are very uncertain property anyway, and this would make them more so." A patent is liable to be upset at any time by the discovery of some publication which the Patent Office did not find or that the attorneys did not find in their search of this wide field. Here would be added uncertainty, and he would say, "I guess I will keep out." That means that the inventor would have a smaller market and would receive a lower return for his patents. That means that the inventors would not invent as much, and that means that the public would suffer in the loss of inventions that would be produced, which, after all, is the great object of the patent system.

The CHAIRMAN. While this is not in line with the bill, I will say that we could protect the inventor here by making an exception. Certainly there ought to be some limitation on the protection given to patents that are simply placed on the shelf, and more people have been driven from the field of invention because of the fact that they are up against those big combinations that place patents on the shelf than would be driven from the field of invention by any restriction that would be placed upon the suppression of patents.

Mr. PRINDLE. I think the wrong there, if there is a wrong in that particular case, is not in the manufacturer or by the manufacturer, but it would be that by some unfair device he obtained title to the patent—

The CHAIRMAN (interposing). There are so many angles to it that we could not go into it, except in a general way, without having something in the way of legislation before us, but the question was asked here, and I knew that Mr. Sprague had had some experience in trying to utilize his inventions, as he explained to us this morning. For that reason I wanted to touch upon that particular phase of it.

Mr. JOHNSTON. While there are many evils which I understand you are very anxious to remedy, and for that purpose you have presented here bills, one of the most flagrant, to my notion, is the one which compels litigants to go from one circuit to another and retry their cases. That seems to me to be a very vicious practice, and one which should require attention at your hands as well as at the hands of this committee, in order, if possible, to devise some plan to cure it or remedy it. Now, as I read this bill with reference to the patent court of appeals, it seems that it was your intention that the patent court of appeals should hear and determine on writs of error appeals from the district courts in patent cases. Is that correct?

Mr. PRINDLE. Yes, sir.

Mr. JOHNSTON. Now, if that plan were adopted, it might, and doubtless would, remedy that evil in part by prohibiting a subsequent or second appeal in that particular case. Is that true?

Mr. PRINDLE. There is but one appeal in any case anyhow.

Mr. JOHNSTON. I understand that.

Mr. PRINDLE. Do you mean a second suit?

Mr. JOHNSTON. I mean a second suit.

Mr. PRINDLE. It would in this sense, that while a man has a legal right to bring a second suit against another defendant, it would be useless to come to the same court which on the same state of facts would be sure to decide the same way.

Mr. JOHNSTON. Then, to that extent, it would remedy the evil which flows from the practice of going from one circuit to another or from one jurisdiction to another?

Mr. PRINDLE. Yes, sir.

Mr. JOHNSTON. But that would not prevent a litigant from taking a case concerning the identical patent which already had been res adjudicata in one district to another circuit or another jurisdiction, would it?

Mr. PRINDLE. Not against another defendant; no, sir.

Mr. JOHNSTON. Has any plan suggested itself to you or to the committee which you represent to obviate or to cure this practice, or for preventing a patent from being litigated continuously from one circuit or jurisdiction to another?

Mr. PRINDLE. I know of no remedy for that situation except that such litigation would be useless, because the decision of this court of appeals would be followed in the district court there, and the plaintiff could not get a decree in his favor on the same state of facts anywhere.

Mr. JOHNSTON. I concede that, but the plaintiff in pursuing this policy and resorting to this practice has in mind bringing about the very compromise which has been suggested. He would be trying to exact a compromise from the inventor.

Mr. PRINDLE. No one would compromise if he only had to appeal from this one decision to this court of appeals.

Mr. JOHNSTON. He might compromise if he were compelled to keep on and go to another circuit and litigate about the same patent.

Mr. PRINDLE. The Supreme Court has decided that when a decision is rendered in favor of a manufacturer as the defendant in a suit that not only protects himself but his customers, so that the plaintiff could not go into another circuit and disturb that business. Does that fit the case?

Mr. JOHNSTON. In part it does, but what I have in mind is this: It does seem to me that there should be enough resourcefulness and astuteness in the patent bar which deals with this class of cases and with the vicious practice I have indicated to suggest a remedy which will guarantee the patentee, as reasonably as we can expect it should be guaranteed under our system, the security which should be guaranteed to him that he is not now to spend the balance of his lifetime traveling from one circuit to another, throughout the length and breadth of the land, defending his patent.

When a man is called upon to defend his patent in one circuit, it seems to me that he should be able to give notice to the world or, at least, to the people in this country, by some form of publication or by some broad statute or provision in a code, which will compel everyone to come in who has a claim to assert against the patent. Here is what I have in mind: If it were a civil case involving the title to real property, there might be some one whom I did not know who might have an interest, remote or contingent, in the property. I may not be able to make a title to that property or to successfully insure or guarantee the title unless and until I bring in everyone from the beginning of the world up until the present moment who may assert a claim against it, and I can do that under our form of law and procedure. I can insert an advertisement in the paper calling upon everyone who asserts or claims any interest in this property to come in at this time and assert it at this time, or forever hereafter hold his peace.

Mr. PRINDLE. That would be an action in rem, while a patent case is an action in personam.

Mr. JOHNSTON. I want to know whether we can apply any such rule, or whether there is enough resourcefulness and ingenuity among the members of your committee to frame such a statute as will prevent that vicious practice I have referred to?

Mr. PRINDLE. I did not understand fully what you had in mind at first, but when this court of patent appeals has once decided that a patent is valid, if the patentee finds anybody infringing upon it anywhere in the United States, he would apply for a preliminary injunction in the district court, which would have to grant the preliminary injunction, in view of the decision of this court, unless there were some new defenses raised or some patent that was not set up against this patent in the office, or if something that was not considered at all by the court of appeals—

Mr. JOHNSTON (interposing). Nobody would ever go into another circuit unless he could allege or prove some other facts which were not brought to the attention of the court or that were not in the contemplation of the parties at the time the original litigation was disposed of.

Mr. PRINDLE. It would have to be substantially different. It would have to be more than argumentatively different. It would have to be something quite persuasive before the court would entertain it.

Mr. JOHNSTON. That is precisely what they do now, if my information is correct, and I have gained most of it from the information disclosed to the committee. They do go, irrespective of the merits of the controversy. They go to another jurisdiction to litigate, not because they believe they have a bona fide case in another jurisdic-



tion, but because, as one gentleman here suggested, they think they will have a more pliable judge presiding over this tribunal, or because there is a contempt in one circuit for the determinations of another circuit, or, at least, a lack of the respect which you would expect to be accorded by one tribunal to another.

Mr. SPRAGUE. At present these suits are brought before the district judge, and the appeal is made, not to any circuit court but to the circuit court of that particular circuit. I can not help but feel, from the standpoint of an inventor, that if the case is pretty thoroughly thrashed out, as the tendency would be before the first district judge, and should then go to a United States Court of Appeals it would act very largely as a bar—especially in a case of preliminary injunction—to going to another district judge whose decision must go before identically the same court of appeals. If it went before another court of appeals it would, of course, be different.

Mr. JOHNSTON. I think this bill proposed here in part remedies the condition, but it by no means cures it, and what I had in mind was suggesting to you and to your committee some inquiry or investigation to the end that you might come before us and tell us what should be done, or submit to us a plan or proposal which would cure this situation.

Mr. PRINDLE. We have considered it, but we have been unable to find any solution of it.

Mr. DAVIS. Under the existing conditions, as has just been suggested by Mr. Sprague, of course the first suit is brought and tried in the United States district court. Then, if there is an appeal, it goes to the United States circuit court, and then it can be appealed from that court to the United States Supreme Court. Now, according to the provisions of this bill, as I understand it, an appeal lies from the United States district court to this court of patent appeals.

Mr. PRINDLE. Yes, sir.

Mr. DAVIS. Which would eliminate one appeal; with this one exception, however, that it may be carried from the United States Court of Patent Appeals to the United States Supreme Court by certiorari.

Mr. PRINDLE. No, sir; the present practice, if I may state it, is this: The case is tried in the United States district court, and, of course, the circuit courts have been abolished. The appeal from the district court is to the United States Circuit Court of Appeals for that circuit, and then the United States Supreme Court may take it up on certiorari. This would not eliminate any appeals, but it would eliminate additional suits in additional circuits, because when once the United States Court of Patent Appeals—

Mr. JOHNSTON (interposing). It would eliminate also conflicting decisions in so many different courts.

Mr. DAVIS. In connection with this bill, do you not think that it is necessary for this bill to contain a specific provision transferring to this United States Court of Patent Appeals all of the patent cases now pending in the United States Supreme Court?

Mr. PRINDLE. I thought there was such a provision for transferring them. If not, there should be.

Mr. JOHNSTON. And also from the Circuit Court of Appeals.

Mr. PRINDLE. Not the Supreme Court.

Mr. DAVIS. The purpose, in order to relieve the congestion and to expedite the transaction of business, is to have these cases first go to the United States Court of Patent Appeals, with the hope that it may not be necessary for them to go to the United States Supreme Court. It is a known fact that the United States Supreme Court is very considerably behind with its business. Now, I simply suggested to you the advisability of having all the cases now pending in the United States Supreme Court, as well as those in the United States Circuit Court of Appeals, transferred by statutory provision to this United States Court of Patent Appeals. Of course, if they should apply for certiorari to the United States Supreme Court, and made the necessary showing, the cases would go there.

Mr. PRINDLE. Every case now in the Supreme Court of the United States is one where the Supreme Court itself has issued a writ of certiorari to call the case there, and I would hesitate to take away from the Supreme Court of the United States that which it had called to itself of its own volition. I do not think there can be more than half a dozen cases there involving injunctions.

Mr. JOHNSTON. If there is only that number of cases there, it would be unnecessary. The only way you could get to the United States Supreme Court under this proposed bill would be by writ of certiorari from that court itself?

Mr. PRINDLE. Yes, sir; just the same as now.

Mr. JOHNSTON. There is no provision in this bill and none contemplated by which the patent court of appeals itself could certify to the United States Supreme Court cases for decision or determination, is there?

Mr. PRINDLE. It is already the right of the United States Circuit Court of Appeals—

Mr. JOHNSTON (interposing). I am inquiring about your proposed bill. I know it is the right of the circuit court of appeals, but do you intend to make such a provision here.

Mr. PRINDLE. Mr. Fish drew that bill, and I do not remember whether it has such a provision. I think he must have omitted it, because he thought the law as now drawn covered it. I will look into that, because that right ought to be preserved.

Mr. JOHNSTON. This court of patent appeals is to be a court of equal jurisdiction, standing, and dignity with the circuit court of appeals?

Mr. PRINDLE. Yes, sir.

Mr. JOHNSTON. Therefore, it was contemplated by the framers of this proposed statute to accord to that court of patent appeals the same rights and authority, so far as it was possible to do so, as are now lodged in the circuit court of appeals?

Mr. PRINDLE. Yes, and if that has not been done, it should be done.

Mr. Milton Tibbetts wants to introduce a statement of a witness who was unable to remain until he was called.

#### STATEMENT OF MR. MILTON TIBBETTS.

Mr. Robert A Brannigan of the National Automobile Chamber of Commerce, was unable to remain over to-day, but asked me to make a suggestion that he thought might be helpful.

From past experience it is very clear that the work of inexperienced examiners in the Patent Office is costing the industrial world millions of dollars, and it is equally clear that much of that money would be saved by pending a comparatively small sum in increasing and improving the personnel of the office. I am sure it is conservative to say that for every extra dollar that may be appropriated for the purpose, up to a reasonable amount, of course, the industrial world would be saved \$10. That would mean \$10 income that would otherwise be spent for nonproductive ends, and under the present income tax 50 per cent of the income would flow back into the Treasury. In other words, \$1 spent would return \$5 in revenue without additional taxation, while at the same time it would leave another \$5 as income for the industries. Isn't it an economical measure.

May I add, in regard to a point made yesterday, that I learn from Mr. Ewing, formerly Commissioner of Patents, that only two cases have ever arisen in which men have been seriously suspected of improper dealings with examiners, and one of the men was sent to the penitentiary and the other died just before the question was brought up for decision. And in both of those cases, I understand the real reason the men yielded to the temptation was that they were simply unable to live on the salaries paid them.

Mr. PRINDLE. I beg to introduce Mr. Wesley G. Carr, representing the Westinghouse Electric & Manufacturing Co., and chairman of the patents committee of the western manufacturers' committee, and formerly a principal examiner and law clerk in the United States Patent Office in the early nineties.

#### STATEMENT OF HON. WESLEY G. CARR.

Mr. CARR. Mr. Chairman and members of the committee, I beg your indulgence for a moment to tell you very briefly why and in what capacity I am here. I represent the Westinghouse Electric & Manufacturing Co., a corporation employing 30,000 employees, and having manufacturing plants in Pittsburgh, East Pittsburgh, Traffic City, and South Philadelphia, Pa., Springfield and Chicopee Falls, Mass., Bloomfield, Trenton, and Newark, N. J., Bridgeport and Hartford, Conn., Brooklyn and Ithica, N. Y., Cleveland, Ohio, and Milwaukee, Wis., and as Mr. Prindle has stated, I also have the honor to be chairman of the patents committee of the Electric Manufacturers' Club, an organization of the representatives—mainly officers—of companies engaged mainly in the manufacture of electric machinery and supplies scattered over the United States, and therefore for the most part vitally interested in the Patent Office and our patent system.

I may say that the company which I represent I joined 25 years ago after serving an apprenticeship of 7½ years' training in the Patent Office as assistant examiner, law clerk, and principal examiner, and that that company was organized 33 years ago by George Westinghouse, one of the greatest inventors and captains of industry this country has ever known, and who was himself intensely and vitally interested in the patent system, the Patent Office, and in all matters connected with that office and that system. I had the honor for a period of years to serve him as patent counsel before the Patent



Office and I knew him intimately and I therefore know that I would be speaking for him, representing him justly and properly if he were now alive. In addressing myself to the question which you are now considering and have been for the better part of three days, I desire, first, although it is not exactly perhaps in order, to speak briefly upon the proposed patent court of appeals, and I desire to add briefly my own views on a point which has not been touched by other speakers unless by Mr. Fish, whom I did not hear.

In view of the fact that I did not hear Mr. Fish, and also in view of the further fact that I do not know the views of the other speakers and especially of the members of the National Research Council, who considered these matters, I urge my own views on these points with some reluctance—some hesitation. I don't understand, though possibly some of the members of the research council may be able to enlighten me, why the provisions of this bill are not sufficiently comprehensive to include appeals in trade-marks, unfair competition, and copyright suits which are instituted in district courts of the United States. I believe they should be included. They have rather close relation in many respects to patent suits, and, as my brother attorneys know, occasionally a suit is made sufficiently comprehensive under the comparatively new rules of the Supreme Court of the United States to include a charge of the infringement of trade-mark or charge of unfair competition in trade, together with the charge of infringement of patents. Inasmuch as these questions are closely related in many respects to the matter of patent infringement, I advocate the inclusion in this bill of a provision whereby appeals from decisions of the United States district courts to the court of patent appeals, when established, shall include trade-marks, unfair competition, and copyright matters in so far as they may be dealt with, and, of course, they would not be in the purview of this act unless they could be dealt with by the United States district courts.

I desire further to comment very briefly in view of some questions that have been raised in reference to the efficiency of this proposed bill in the direction of lessening the number of patent suits, simplifying the patent litigation, and thereby conserving the interests of those who prosecute and defend patent suits.

Some questions that were asked quite recently of Mr. Prindle led me to believe that the only matter in mind in asking those questions was that of validity or invalidity of the patents. It should be borne in mind that every patent suit necessarily involves two primary questions, namely, the validity or invalidity of a patent, and, if valid, infringement or noninfringement. It is quite apparent to those having cognizance of these matters that a decision by the court of patent appeals, if established, disposes for all time of the validity of patents unless a suit brought in a court in another district different from the one from which the appeal is taken should develop a state of facts of prior origin or something that was not in the suit and it being a suit against another defendant, but so far as the question of infringement is concerned you gentlemen must understand that every case of infringement is necessarily different from every other one.

In fact, it might be possible, if we had a sufficiently equipped Patent Office to issue patents which should carry with them guar-

antees of validity. I don't suppose that will ever be done, but it would be possible, but the Patent Office, the Government of the United States, could not give any guarantee with regard to infringement, obviously because the infringement depends upon the interpretation of the claim as applied to a given structure or given method or a given composition of matter, chemical composition of matter, as the case may be. The possibility, therefore, as I see it, of enacting any legislation which will preclude any patent owner from bringing a second or third suit in a different district from that in which the initial suit was brought was impracticable, and the provisions of this bill, therefore, are substantially all that we can hope for, and I personally do not anticipate any serious number or kind of oppressive suits provided the law otherwise stands on the statute books as it has for a period of years. In this connection, although not entirely apropos, I desire to say two or three words with reference to this matter of so-called suppression of patents which has been under consideration at different times during these hearings, but I must confess that in addressing myself to this question I am necessarily limited to my own experience of 25 years, almost entirely with one corporation, though of large proportions, and doing very much varied business throughout the entire world.

So far as my experience goes, and please note that I just qualified my statement by limiting it to my experience—so far as my experience goes there is no such thing. We have heard considerable discussion, pro and con, around this table with reference to the purchase of patents from inventors, the purchase of patents at inequitable prices. I don't know what pressure has been brought to bear by other corporations. I don't know what pressure may be brought to bear to compel the owner of a patent to sell his patent for materially less than it is worth, unless it be his own property, and the necessity to acquire the means whereby to buy food and clothes. I know that when the owner of a patent or patent application approaches the Westinghouse Manufacturing & Electric Co. for the purpose of selling a patent or granting a license under it, and I may say parenthetically, that a very considerable number—a very large percentage of the patents submitted to the Westinghouse Electric & Manufacturing Co., and which are found to be of value to that company, are not sold outright to the company, but the company secures licenses under them—if the given license is exclusive, the owner of the patent is guaranteed a minimum royalty which is satisfactory to him, so that if the patent is temporarily shelved, as may be necessary for several reasons, he is still compensated, and if the company finds that it is not worth while to make use of the subject matter of that patent, it is not going to keep that on the shelves and continue to pay royalty when it is getting no return. It is going to return that license, as it does sometimes.

In case the license granted is nonexclusive, it obviously is of no particular consequence to the patentee whether the subject matter of the patent is used or not, because he is free to license as many other corporations engaged in the same line of business as he can induce to take license and that in competition will manufacture the device and pay him his royalty. So far as the suppression of the Automatic Telephone Co. and its patents, which has been referred to by the

chairman several times, I have no knowledge, but I venture to say that there is probably no other institution—I may be wrong in this, but none other occurs to me at the moment—no other institution based in whole or in part upon patents and patent inventions has anything like a monopoly in its line. From downright concrete, accurate knowledge I am speaking necessarily with reference to the lines of manufacture and commercial exploitation with which I am directly familiar. As to those there is no such things as monopoly. Now, as you gentlemen know, a patent grants or purports to grant not the right to manufacture—the inventor has that without his patent—it grants the right to exclude others. If he transfers his patent to some one else for a consideration, he transfers that right to exclude others from enjoying the property rights conferred by that patent.

If, as I have stated, there is no such thing as an exclusive monopoly in any particular line—if there is competition as a matter of self-preservation—and I speak from knowledge now—as a matter of self-preservation in the commercial world the owner of a patent if it is important is bound to utilize it, because he is in competition with A, B, and C corporations that are going to develop and place upon the market something that is—if not that thing, just as good, or similar—nearly as good, and every progressive manufacturer that is alive to his business is on his tiptoes to keep up with and if possible ahead of the procession. Unless he has an absolute monopoly he is in competition, and he is compelled to continue developing his project and develop it as much as possible, because the public needs it, and unless they can get it from this manufacturer they are going to get it from another.

The CHAIRMAN. I gave a concrete illustration of taking over the automatic-telephone system by the competitors and forcing them to pay the company, because the others were protected by its patentors. It was valuable not to those others that associated with him. In the taking over of it it took millions and millions of dollars of stocks and bonds by the American Bell Telephone Co. to dissolve those bonds, which the people of this country must pay telephone rates to meet those dividends on the stocks and bonds of the American Bell Telephone Co. That is an actual fact. That invention for the life of it is scrapped and put on the shelf, and it is denied except where the public utilities commissions and the laws of the different States force them to continue the service. I say that is an actual fact where the thing has been suppressed and the public that we have heard so much about, they ought to be entitled to the benefits of it, are compelled to pay an increased rate for that purchase price and to scrap that equipment and to put that thing on the shelf and to stay, and we, the people of the United States, through the Patent Office, made that possible.

Mr. CARR. I have no quarrel or controversy with you, Mr. Chairman, as regards that particular case because I don't know anything about it and even if I had, I don't suppose I would have any, but that is one case and I don't believe anybody in this room can cite me another. That is one case where there is, as you have already stated very properly, a monopoly. The telephone, the mail transportation system, in other words, the transportation of intelligence ought to



be unified. We are agreed on that, I think. But please don't condemn the system. Don't alter it radically as you have suggested because there is one instance of oppression, just one.

The CHAIRMAN. No; I think we will find in the records—I can not recall, of course, where case after case has been cited in hearings before this committee in times gone by, and I don't believe I ever brought to the attention of the committee before that particular instance, and the idea as stated by Mr. Fish, that where things are apparent, there ought to be a limitation.

Mr. CARR. It is a very dangerous ground on which to encroach, because of its far-reaching injury. I do not say absolutely that there are not isolated cases which would justify some remedial action of some kind, but I seriously doubt whether anything such as that which has been proposed would be justified. It would be a variant apparently from the provision found in nearly all countries except the United States, compelling the so-called working of delays. That law is evaded more or less by subterfuge in most countries.

Mr. MACCRATE. Would it be possible in the establishment of the court of patent appeals to have a provision whereby the Attorney General of the country could go into this court on a petition asking that suppressed patents be sold after a certain number of years? Suppose this automatic telephone or some other invention of that kind of equal public value was being suppressed? If this Patent Office is as it has been argued here, and I suppose argued honestly, to serve the public as a whole and not the patentees, why should not there be resident in some officer of the public, either the Attorney General or somebody else, the right to go in.

Mr. CARR. It is possible that there ought to be some remedy. I confess I do not know that there is any need of it, but as I regard the matter now I should prefer to see some provision like that in the Canadian patent act, section 44 of the Canadian patent act, which provides for a compulsory license in case no practical use is made of the patent. That leaves it open to the owner of the patent, if any demand arises, to proceed with the manufacture, or, failing to do so, it grants the license to the party who desires to engage in the manufacture. I think that would be more equitable.

I have to procure a very considerable number of patents in the course of a year. I neglected to mention what I intended to at the outset as nearly indicative of my interest in the Patent Office and its workings, that during the period covered by the last five years my office has filed an average of 465 applications a year and has several times that number of applications now pending in the office, and in the case of the Canadian patent office, the Canadian Westinghouse Co. is given instructions to have the patent made subject to the provisions of section 44 of the patent act, in order that the lapse of the patent may be avoided in case the Canadian Westinghouse Co. neglects or fails for some reason to engage in manufacturing the subject matter of the patent.

Mr. DAVIS. If you will permit me, I do not think it is in the mind of any member of the committee that they would like to arbitrarily cause a forfeiture of a patent for nonuser, but what would you think of an authorization by law of a proceeding to be instituted by the United States attorney against a company which

owned a certain patent, requiring it to appear and show cause why that patent should not be forfeited for nonuser? After all, those matters are always to be determined by the court upon a proper hearing, and after they came forward and presented their reasons for not utilizing the patent, then the Government, of course, would be permitted to introduce any proof it had to the contrary, and if it developed to the satisfaction of the court that it was a suppression and that they had no right to suppress it, the court would so decide, and if it developed that it was not suppressed for the purpose of suppression, but by reason of conditions or lack of availability, of course he would decide to the contrary. Now, from the standpoint of the public, which, of course, includes patentees and owners of the patents, what would be the objection to an authorization of that kind?

Mr. CARR. Personally, I do not see any. I have not given the matter thought, however. That is, on the spur of the moment. It would involve some expenditure of time and money, of course, possibly to no purpose, but I can only speak, as I say, on the spur of the moment for myself alone. I have not discussed that with anyone. It certainly would impress me as more reasonable and equitable than to include in a statute a drastic provision to the effect that unless the subject matter of a patent is utilized within a specified time it shall be ipso facto void. I would be decidedly opposed to anything of that kind, because I think it would be unjust.

Mr. DAVIS. Of course, the United States attorney would not institute a suit of that character upon a trivial matter.

Mr. CARR. Probably only after investigation.

Mr. DAVIS. But only in a case where it affected the public interest; for instance, a case of the character cited by the chairman, something on that order, where it was of vital concern to the public.

Mr. CARR. Well, I think that is the most reasonable and proper suggestion tending in that general direction that I have heard, and if anything of that general character is to be undertaken, that impresses me as the most reasonable.

The CHAIRMAN. There is one thing about this whole subject matter. If there was any legislation on it, it would be the subject of separate hearings entirely, but the thing has crept in here, and inasmuch as we do not have such a galaxy of stars, both from a legal and scientific standpoint, often before us, we allow ourselves full rein here to get down to bed rock.

Mr. MACCRATE. For posterity's sake.

Mr. JOHNSTON. In an experience such as you have had as an attorney for a large corporation doing extensive work with the Patent Office, I want to ask you one or two questions to satisfy myself on a question that has been disturbing me. Of course, you understand that I make no personal reference to you or to your company when I ask these questions. It is just for general information. Have you information or suspicion that a practice has been resorted to by corporations having almost kindred interests in the suppression or the defeat of a patent of instituting collusively litigation for the purpose of denying the inventor of a patent the full return for his work?

Mr. CARR. None whatever, so far as I am concerned, and so far as my knowledge goes.

Mr. JOHNSTON. You know of no such instance where litigation has been started by one corporation against another, and that litigation has been purposely delayed so it would serve the interests of both of them and disregard the interest of the patentee?

Mr. CARR. I would not undertake to say that litigation has not been delayed for one reason or another. I think that would be going pretty far.

Mr. JOHNSTON. I mean for that reason.

Mr. CARR. Well, I could not say that for that reason it has. I do not recall any such instance. In fact, I may say, in addition, that speaking from my knowledge and my dealings, my knowledge of the operations of the Westinghouse Electric Manufacturing Co. and my personal dealings with people and things on behalf of that company, I know of no oppression of inventors of any kind whatsoever. We do not do business that way.

Mr. JOHNSTON. I do not mean to imply, you understand, that your company does, or that you do.

Mr. CARR. I understand.

Mr. JOHNSTON. Your experience, I understand, has been very extensive, and I wanted to know if you had any information or suspicion that that practice was resorted to by other companies.

Mr. CARR. It may be, but I would not undertake to express anything in the nature of a suspicion here before this committee. I have, presumably as we all have, heard rumors and innuendo, of one sort or another here and there from time to time, but, as we all know, that is more unreliable than hearsay testimony in a suit. It is not worth considering.

Mr. JOHNSTON. I have heard that rumor, but I have heard it so generally that I wondered whether it had any basis in fact at all.

Mr. CARR. I believe, candidly, that the conditions in that regard depend altogether upon the personnel and the characteristics of the individuals in the manufacturing corporations. While a corporation is a body without a soul it nevertheless is manned, equipped, and managed by men who have souls, but they are of different qualities and kinds, and I have no doubt that some of them are capable of, and perhaps some of them do these things that you suggest, but I have no personal knowledge of it.

Mr. MACCRATE. Have you ever heard of a practice where a man goes in with a good idea and gets it patented, and somebody else who realizes the value of that as a competitor with some patent he has, goes in and makes numerous additions to it which render it perfect, and then never using it?

Mr. CARR. Yes; I think I have known of such instances.

Mr. MACCRATE. For instance, I now have in mind a specific instance of a pile that a man put through, and some one saw that pile might conflict with some of their own patents, and amended his patent in certain ways, in a variety of ways, and perfected his idea and rendered it unfit for him to use, but rendered it unfit also as a competitor in their own line.

Mr. CARR. That is a condition against which it is impossible to guard. If I make an invention and I secure a patent on broad claims, assuming, of course, that my invention is of such a character as will support comprehensive, broad claims, and A, B, or C, being



more ingenious or more active, more alert than I, proceeds to improve my device or my invention, he is entitled to his improvements, but if my claim, my broad claim, is good, he can not make any commercial use of it, and neither can I make any commercial use of his improvements unless he permits me; but among reasonable men it is usually possible to effect an agreement or adjustment of some sort with reference to those matters. I do not think you will usually find conditions of that kind that can not be adjusted. That is a condition, of course, that can not be avoided. The original patentee, if he has a good patent, has a monopoly and has a right to exclude others within the bounds that his claims provide, and improvers on that device have a right to what they have added, but they can not use the original thing.

MR. MACCRATE. But to determine the basic value of the original patent as compared with the improvements is a most difficult thing, and it would seem that the man who has the basic idea and makes the invention should be entitled somehow or other to compel the use of these improvements so that the public would get the benefit of them and he receive some benefit from it too.

MR. CARR. Well, I do not know that you can properly make a provision of that kind. It is equivalent to taking private property for public use, which the law does not sanction, without compensation.

MR. MACCRATE. You are taking the main idea of the original inventor and you are precluding him from using it in certain ways simply by letting it lie dormant.

MR. CARR. If you have the original invention and it is of such a character as to be free from tribute to prior patents you should be sufficiently alert to develop it to the point where it is satisfactory to the public in order to make some money out of it.

MR. MACCRATE. I do not agree with that statement.

MR. DAVIS. In fact, the condition stated by my colleague is simply a natural hazard which every patentee takes, and it is a condition that grows out of the ingenuity upon the part of others.

MR. CARR. Surely.

MR. MACCRATE. Not of necessity. It may be that a man has worked on an idea for years and finally arrives at this idea, and somebody else, seeing his basic idea and seeing how valuable it is, puts a little hook or a little prong on it, or something else, and perfects it, but the basic idea never occurred to him. The man may have spent 20 years in the development of the basic idea before he arrived at it, and someone comes along and sees it is a useful thing, and goes in and slaps some improvement on it, and perhaps this man, if he considered another month or so would have had that idea himself, but he is precluded from using it, simply on a gamble or chance. If the Patent Office is going to be run for the benefit of the public, it does not seem that that is right.

MR. CARR. There are not many improvements which may not be avoided by doing the thing in some other way.

MR. MACCRATE. You can do as my friends are now doing, clouding the Patent Office with a lot of patents that may never be used, simply in order to prevent somebody else making improvements on it.

MR. CARR. I have very little, if anything, to say with reference to the bill providing for compensation in case damages or profits are

not proved or not sufficiently proved. I am inclined to subscribe to Mr. Fish's criticism of the first few words of that provision, but in general I think it is worth while and I do not believe that it would be seriously objectionable if incorporated in a legislative act and placed on the statute books as drawn.

Mr. JOHNSTON. Do you believe it would be valuable?

Mr. CARR. I beg pardon.

Mr. JOHNSTON. I understood you to say you do not believe it would be hurtful, is that right?

Mr. CARR. I said with reference to that provision to which Mr. Fish takes exception.

Mr. JOHNSTON. That is with reference to the damages and how they are to be ascertained by the court?

Mr. CARR. Just the few words. I think it says without proof.

Mr. JOHNSTON. "If proof is not offered, or in the absence of proof."

Mr. CARR. "If proof is not offered." Those are the words he objected to, just those words. He does not object to the rest of it.

Mr. JOHNSTON. What do you think about it?

Mr. CARR. I am a little in doubt as to whether I get the import of that. I fail to see exactly why the court should award damages if no attempt is made to offer any evidence whatsoever on that point, and that is the way it seems to read. I do not know that the committee meant that.

Mr. PRINDLE. May I answer that?

Mr. JOHNSTON. I wish you would, because that is something that disturbs me very much and which Mr. Fish, althought he did not purposely evade it, did not to my satisfaction make clear. Mr. Prindle, if I may suggest, I wish you would direct your statement to the three different theories: First, that the burden shall be upon the plaintiff to establish his loss; second, that at some time during the proceeding the burden shall shift to the defendant to show the freedom from damage; and, third, the proposal contained in this proposed bill which, in my judgment, allows the court to speculate or guess in the estimate of the damage.

Mr. PRINDLE. The plaintiff must show that there was a profit or that there were damages before he has any recovery. The defendant will answer that as best he can, and this provision is intended to enable the judge, upon due proceedings, that is upon opinion evidence as to what would be equitable under these circumstances, to award damages. Say that men in the trade would testify that a royalty of 5 per cent would be fair, or a lump sum of so much would be customary or fair, the judge, not by merely guessing, but guided by opinion evidence, would then arrive at an amount which he deemed to be just, just as he would in any other form of injury case. The reason for this is that in most patent cases it is impossible to prove exactly what the profits were, because you can not separate the part for which the patent ought to have credit from the rest of the machine where the patent does not enter.

Mr. JOHNSTON. May I interrupt you there? Would a writ of discovery ascertain that?

Mr. PRINDLE. No: it is impossible, absolutely, as Judge Hand said this morning at breakfast, the facts do not exist from which you can deduce that amount.

Mr. DAVIS. It is incapable of definite proof according to the ordinary rules of evidence?

Mr. PRINDLE. Yes; or according to any rules. Suppose it is a watch and the improvement relates to the stem wind of the watch, and that is all the patent had anything to do with, and the watch sells for \$20. You absolutely can not tell how much of the profit on that \$20 watch is attributable to the patent and how much to the ordinary construction that the manufacturer was free to use.

Mr. JOHNSTON. I can see that, but then you provide that "if proof is not offered or in the absence of proof the court, upon due proceedings"—whatever due proceedings may mean——

Mr. PRINDLE. It means opinion evidence.

Mr. MACCRATE. You are making room for another branch of opinion evidence which every court thinks is not of much worth.

Mr. JOHNSTON. "The court, on due proceedings had, may adjudge and decree to the owner payment of a reasonable royalty or other form of general damages." Are those damages to be exclusively compensatory damages?

Mr. PRINDLE. Not necessarily.

Mr. MACCRATE. The next sentence says otherwise.

Mr. PRINDLE. That language was taken from the Federal Trade Commission act where it provides for compensation when an American should use a German-owned patent, and it was not invented by this committee, but it was applied by this committee to patents in general. The reason is not only what I have stated, that it is impossible to prove in many cases what should be the recovery, but the further reason that to prove it in those cases where it is possible is often more expensive than the total recovery would amount to. This amendment to the law does not compel the court to give an estimated sum, but it leaves it to the discretion of the court whether he will require the plaintiff to prove exactly what he is entitled to, or whether he will say, "Well, in this case I can see that if you go through this expensive accounting it will cost you more than you can possibly recover, and so I will permit you to produce witnesses who know what the profits are on this kind of an article, who will advise me as to what the reasonable recovery would be." The defendant would then produce witnesses along the same line.

.The proof in patent cases of what the recovery should be is so universally difficult and expensive that there are very few patent cases in which they attempt to make any such proof. Patent counsel usually tell their clients, "It is worse than useless to try to recover money. You may get an injunction, but do not think anything about money, because it will cost you more than you can get." So in the great bulk of cases the inventor gets no money, and the patent system has been reproached for that reason. This is a provision to enable the inventor to get some recovery in every case where a patent is held to be valid and infringed. It is better to make some error in guessing at the amount than to send the man out of court without any recovery at all when he is obviously entitled to something.

Mr. DAVIS. Mr. Prindle, I fully appreciate the force of what you say, but I want to suggest that this language, "If proof is not offered or, in the absence of adequate proof," is unfortunate and incorrect.



As I understand your purpose, and I am inclined to think it a proper one, it is to authorize the assessment of damages upon opinion or expert testimony as compared to ordinary testimony.

Mr. PRINDLE. Mathematical proof.

Mr. DAVIS. Yes, mathematical proof. Now, that is proof and it is competent in innumerable cases throughout the law.

Mr. PRINDLE. Yes.

Mr. DAVIS. Expert testimony is competent evidence, and I think that it ought not state that such is not proof, but simply authorize the establishment and the assessment and the award of damages upon opinionative or expert testimony. For instance, when a damage suit is brought for the life of a man who has been killed by a railway train or automobile or anything else, the value of his life can not possibly be calculated or estimated with any mathematical accuracy at all. The courts all realize that and do not attempt it, but the jury is permitted to estimate and render a verdict as to the value of his life, upon which a judgment is based, and it stands, and that is the recognized law of the land. Of course, all they can do is to see the man's life and the condition of his health and his prospective earning capacity based upon his present and past earning capacity, but that is all speculative, and so in innumerable instances it is absolutely necessary to resort to opinion evidence in order to effect any verdict for damages. Now, do you not think that it is more proper to recognize that and simply authorize the introduction and the consideration of opinion or expert testimony rather than to say that the judgment may be rendered without proof?

Mr. PRINDLE. Would you mind sending me a draft of your suggestion along that line so I could consider it? That certainly is the intent of the amendment.

Mr. JOHNSTON. Would not this meet that, to strike out on line 6, page 12, of the bill 5011 the words beginning, "if proof is not offered or, in the absence of adequate proof of the amount that shall be awarded"—strike all that out and commence a new sentence at line 8, "The court may award damages or profits on due proceedings had, and may adjudge and decree to the owner payment of a reasonable royalty or other form of general damages"? Now, is not that all that you require? You have a right to assume—in fact, I think it is your duty to assume—that the court, in awarding damages, is going to be governed by the usual proof which is offered, and with due regard to the rules of evidence.

Mr. MACCRATE. But your burden of proof theory in other cases would still prevail in patent cases unless you have something like that.

Mr. DAVIS. Another thing, the courts are very slow to depart from precedent, and in view of the practice in this respect I think it would be necessary to authorize by statute the consideration of such testimony before the courts would feel authorized to depart from the past custom in that respect. Mr. Prindle, I think it is very easy to amend that so as to conform to my suggestion. What I have said will be contained in the printed hearings, a copy of which you can obtain, and I shall be glad at any time to confer with you or other members of the committee with respect to such an amendment.

Mr. PRINDLE. Will you send me a draft of the language which you think would be appropriate, please?

Mr. DAVIS. Yes.

Mr. JOHNSTON. It would meet that criticism to have language substantially as I suggest. If a statute grants damages for the loss of an arm, a limb, or life, the statute provides that if A is damaged or injured, which results in damage to himself, personal damage, the court may award damages to him. Now, no statute provides that the court may, upon trial and upon proof by the plaintiff and upon proof offered by the defendant, award damages. The court says if there is an injury damages may be awarded, and the court will resort to the usual legal procedure covering cases of this kind and the admission of evidence and the taking of proof, and all the machinery which is known and recognized by the courts as adequate.

Mr. DAVIS. But that is applicable to the question of personal injury.

Mr. JOHNSTON. Any kind of injury.

Mr. DAVIS. And it is already the practice, growing out of necessity.

Mr. PRINDLE. The trouble is that there are generations of decisions saying that unless a patentee can show exactly how much profits he is entitled to he can not have anything, and we have got to expressly state that in patent cases they can do what they already do in all other cases of injury, award general damages. That is why it is necessary here where it would not be necessary in other statutes relating to other kinds of injury.

Mr. DAVIS. I think you are undoubtedly correct.

Mr. MACCRATE. In New York City you have to prove contributory negligence, and that places the burden on the defendant.

Mr. JOHNSTON. That is another statement, but the statute awarding damages does not say that the damages shall be assessed by the court.

Mr. CARR. Almost from time immemorable, as brother Prindle has in substance stated, when damages or profits have been asked the suit has been referred to a master, after decree and protracted proceedings and an accounting have been gone through, and they continue to do that unless there is express provision making some other provision.

Mr. DAVIS. Before you conclude, by reason of your experience in and out of the Patent Office, I should like to hear a brief statement of your opinion as to the practicability and the advisability of establishing an independent Patent Office.

Mr. CARR. Segregating the Patent Office from the Interior Department, you mean?

Mr. DAVIS. Yes, giving the compelling reasons for it, to your knowledge.

Mr. CARR. I am decidedly in favor of it. I have no reasons to urge other than those which I think have already been presented, namely, that to make the Patent Office an independent institution apart from the other bureaus of the Interior Department would lend, I believe, dignity to the institution, tend to give the employees of the office, the examiners and the other higher employees and officials of the office, a better standing, and what is perhaps of still greater importance, enable the office to secure from Congress that

recognition in the matter of compensation which it unquestionably needs and must have if it is to continue as an effective organization. Those are really the two considerations that appeal to me.

The CHAIRMAN. How could it get that any more effectively as an independent bureau than it can as a part of the Interior Department?

Mr. CARR. Only because its corps of examiners, the examiner in chief and assistant examiners, are especially skilled and qualified men who are compared, as I think has been already stated here, with the employees, for example of the Land Office and the Pension Office, who are not skilled except as they may be bookkeepers or clerks or accountants, or working in clerical capacities of one kind or another. They are not scientifically skilled, and necessarily, as the matter now stands, with the Patent Office a bureau of the Interior Department, the recommendations, as has been stated, must necessarily go through the Secretary of the Interior, against whom I believe no charge has been made or is likely to be made as a man or as an official, but he is bound by reason of his supervision over these underlying bureaus to compare them and make his recommendations more or less in that light. He is held down and he must necessarily tend to hold all the recommendations down.

The CHAIRMAN. All the positions provided for are statutory, and the only way in which they can be changed is through an act of Congress and not through the appropriation bills, which necessarily means legislation that generally comes before this committee and not before the Appropriations Committee of the House. Where is there any distinct advantage to the patent system in having the Patent Office an independent bureau?

Mr. CARR. I do not know, because, Mr. Chairman, we have not tried it yet.

The CHAIRMAN. We are asking all these pertinent questions because of the fact that there is a distinct prejudice against creating separate and independent bureaus, which, after all, merely means the satisfying of the ambitions of the particular bureau, its expansion, and increasing the running expenses—that has been the practice—and making it more and more important, which is all right if there is a resultant increase in efficiency and some decided advantages. What we are trying to get at in our questions is where is that distinct advantage in separating this department and making it an independent establishment, independent of the Interior Department or any other department. That is what we want to get at. As you have had 25 years' experience since you left the Patent Office, and 7½ years' experience inside, we think you ought to be able to tell us that.

Mr. CARR. Anything I may say or anything anybody else may say is more or less conjectural because, as I think, we have not tried it, but we feel that inasmuch as the Patent Office now occupies a building by itself, is physically divorced from the Interior Department and the other bureaus, and inasmuch as it has absolutely nothing in common, the Secretary of the Interior exercises substantially no supervision over its operations, no appeal lies to the Secretary of the Interior from any of the decisions of the Patent Office, and his control, his supervision is perfunctory and nominal,



or almost so, as I understand it, and from my experience I believe that to be so, it should be an independent bureau.

Mr. MACCRATE. Regarding the condition of the Commerce and Labor Departments before they were separated and since they have been separated, do you know whether or not they are more efficiently functioning since the division?

Mr. CARR. I have made no inquiry and could not give you any information.

The CHAIRMAN. That is a case where we created a Cabinet position, and there is not any question whatever but that it is a more important institution now than as an adjunct.

It is an absolute fact that it will cost more and they will get more money. We want to know as a committee what distinctive advantage there is to the inventors of the country, and to the industry of the country and to the public in this country in separating this office from the Department of the Interior. If we recommend this bill, we have got to show to the membership of the House the necessary reasons for it, outside of the fact that they are handicapped in getting appropriations. The fact of the matter is that over there they want to put handicaps on every branch of the service, and more so to-day than at any time since I have been here. For instance, there is a great movement throughout this country, and there is justification for it, for a budget system. What does that mean? That means, if a budget is established in this country, that the Patent Office under Mr. Newton, or, if he has a successor some day, somebody else, will necessarily have to go in with all of the rest. There is a great movement on in and out of Congress for the establishment of a budget system, which means the lopping off of a number of appropriation committees and centralizing appropriations. Now, that would take away any advantage that any independent bureau would have. What we have got to have is some facts. That is what we are after, some facts to show the House, if we report this bill, the importance of creating this bureau.

Mr. EWIN L. DAVIS. Because we will be asked numerous questions by all the Members of the House on the floor of the House, if opposition develops, which it most likely will, and if the committee does not go on the floor of the House armed with adequate information, they will soon find themselves in a bad way.

Here is an argument that will be urged against it, assuming this committee sees proper to report this bill. Others will get upon the floor and say there are numerous other important bureaus. There is the Pension Bureau, the Census Bureau, the Bureau of Engraving and Printing, and numerous others which they can mention, and in which one or the other or more of them are personally interested, because they have some constituent or friend holding an important position in it or other connection with it, perhaps, or expect to have, and they will say, "Why should this be made an independent department, as compared with these various other bureaus?"

Here is another argument that will be urged against it: "Oh, this will just let down the bars, and if the Patent Office succeeds in being created as an independent department these various other bureaus will be coming in with similar bills, and we will be flooded by that sort of proposition, and they will say, 'You ought to grant it to us because you did to them.'"

I am not making that as my own argument, but I am simply anticipating what will be urged on the floor of the House.

The CHAIRMAN. We will have to have something else than the statement made by the gentleman that it will add more dignity to it, because we can not get by with that bare statement.

Mr. CARR. The Patent Office, so far as the members of its force other than such clerical stenographic laboring force as is necessary to supplement the important work of the office is concerned, is composed of experts, scientific experts, and as such we believe they are justified in being connected and associated with and a part of a separate institution. That is one thing. As has been already stated by others as well as myself, it is believed that additional compensation may more readily be secured if the institution is separated from the Interior Department, but I understand that you gentlemen believe that is not a good argument to present to Congress.

The CHAIRMAN. I want to say that that is a matter of legislation, and not a matter of appropriations. It is up to this committee to report a bill out that would authorize that, and then it is a matter for the Appropriations Committee to furnish the funds. They have not any other thing to do, but it is a matter of legislation anyway, because these positions are created by statute, and if the Appropriations Committee attempted annually to increase those appropriations they would go out on a point of order.

Mr. CARR. Yes, I understand, but so far as the general public is concerned, which very indefinite person I believe I represent, it is vitally interested in this matter, chiefly because—and that brings us to the other bill—because the public or that portion of the public that has some interest, direct or indirect, in the patent system, and that portion of the public is larger than most people believe, is vitally interested in having the most effective, the most thoroughly equipped Patent Office that is possible to get and keep and maintain, and in order to get that we must make its surroundings, its general conditions as satisfactory as possible, and bringing us back now to those reasons, I believe, we believe, that the general public whose interests are affected will be benefited by having this segregation because of the more important status it will give to the Patent Office and its employees, and because, as we hope, additional compensation will be provided for these men, and an additional force may be provided so that the work of the Patent Office may mightily improve.

When I started my apprenticeship course in the Patent Office it was the result of a competitive examination, and I secured the salary for the first year of \$1,200, as fourth assistant examiner, which at that time was not bad compensation for a young man just out of college. The third assistant examiners were paid \$1,400, the second assistants \$1,600, the first assistants \$1,800, and the principals \$2,400 at that time. The law clerk was paid \$2,000. Those salaries were not so grossly inadequate at that time, but that was a good many years ago. They have been increased a very little since that time, and we all know what it costs to buy clothes, shoes, hats, food, or what not, as compared to what it did 25 or 30 years ago. I believe, gentlemen, from expressions of opinion that I have heard from questions I have heard asked here, that there is no necessity for my saying more to convince any of you that these able, conscientious,

honest, efficient employees of the Patent Office are grossly underpaid. Personally, I do not believe that the provisions in this bill and the recommendations of the committee are enough, but perhaps it is all that can be secured at the present time. I know they are not enough. I know what men doing similar kinds of work, and doing it as well as it is being done there, on the outside are getting, and we must either abandon our examination system absolutely, or we must provide an adequate force and pay that force adequately, because if we do not do the one or the other the patents that will be issued from that office will be issued by third, fourth, fifth and sixth rate men and they will not be worth the paper they are printed on.

Our patent system, however little regard may be felt for it or paid to it in sections of the country where it is not very well known, in sections of the country where the people are not directly interested, is the foundation of our manufacturing industries, and I say that decidedly because the company with which I was connected was started 33 years ago upon no other basis whatsoever but a patent on an alternating current system, a transformer and system of distribution purchased by Mr. Westinghouse, and certain inventions by the late William Stanley, and this enormous company, with plants scattered through a large number of towns and cities, as I have stated, and employing approximately 30,000 men and women, and during the period of the war when we were making munitions the number was forty odd thousand—this company—and it is only one of many—and, in fact, the same is true, I think, of every manufacturing corporation that really starts out in a new field or approximately new field, or starts something that is approximately new—there are some immitators that do not do much in that line—but every manufacturing corporation that begins operations in anything like a new field is based very largely upon patented inventions, and the large corporations, each of them, employs a force of patent attorneys and builds, equips and maintains a research laboratory that costs a great deal of money, for no purpose, no reason, except to develop and improve the product, and as that product is developed and improved it is made the subject matter of applications for letters patent, and all of this, from the plow and the harrow and the harvester mentioned by my friend Prindle, to the telephone, the tractor and the farm lighting and power outfit or what not, go out all over this land to the farmer, to the merchant, and the mechanic—these items I mentioned to the farmer mainly—and these developments, notwithstanding the impression that has gone abroad to a greater or less extent with reference to the suppression of patents and inventions, these developments, I venture to say, would not have been made, at least a very large percentage of them would not have been made, except for the incentive afforded by our patent system rewarding the inventor by giving him the right to exclude others from making use of his invention without just compensation to him for a period of 17 years, and while, as has been stated, the Patent Office issues some patents that are not valid, I fear from some statements that were made, that the impression has been made which is erroneous, that all or nearly all of the patents are of that character. Do not get that impression, gentlemen. It is only a percentage of them. I do not know what the percentage is, but I know there is a very



large percentage of patents issued by the Patent Office that contain valid claims, they are so found, they are valid and infringed, and it is only a percentage of them that are held invalid, and if the Congress of the United States will provide an adequate examining force and that auxiliary force that is necessary for them to perform their proper, natural and expected functions as examiners, and if Congress will provide us a Patent Office with an adequate number of such men, and pay them what they are entitled to get as compared to other men in similar lines or equivalent lines of endeavor, then we shall have a system that will be a credit to our country and to ourselves, and we will have done our duty, and not otherwise. Thank you, gentlemen.

Mr. PRINDLE. Mr. Chairman, I desire to introduce Mr. Delos Holden, who appears as the personal representative of the great inventor, Thomas A. Edison, who needs no introduction to any American.

#### STATEMENT OF MR. DELOS HOLDEN.

Mr. HOLDEN. Mr. Chairman, it gives me great pleasure to appear before you. The subject of patents, of course, is one in which Mr. Edison has always taken a great interest, and it has been my privilege and good fortune to have been associated with Mr. Edison in his legal and patent department for 16 years. Prior to that time I was in the Patent Office as an assistant examiner for about three years. Then I resigned and accepted a position with a very prominent firm of patent lawyers, and spent two years with them.

Mr. MACCRATE. May I interrupt? If the salaries had been bigger in those days would they have kept these three good men?

Mr. HOLDEN. They would have been considerably larger than they were. Now, Mr. Edison, of course, is not a lawyer, but looks at everything from the inventor's standpoint, and he has read over these bills. I asked him to look them over, and he said he would take them home and read them in the evening, as is his custom, and I saw him the next morning, and I said, "Well, what did you think about them?" "Well," he said, "they are all good," and he thinks that they are a step in the right direction. I said, "Mr. Edison, is there anything that you would like to have me tell the committee on your behalf?" and he did give me a message, which does not relate to these bills, but which he considers the greatest defect in the patent system, but whether or not it can be remedied I do not know.

Perhaps some member of this committee may be able to suggest some plan which will meet Mr. Edison's objection. The theory of the patent law, as you know, is that, in consideration of the disclosure of an invention which the people of the United States will be free to use at the end of a given time, the inventor is given a monopoly for that period, 17 years, and theoretically the inventor has the fruits of that monopoly for that period, but in practice does it work out that way? In practice, is it the inventor who gets the returns on that invention during that period, or is it somebody else? Now, here is what Mr. Edison authorizes me to say:

You might say that if there is any possible way whereby the law would in actual practice work out so that the inventor would be protected from the

capitalist, either by the impossibility of alienating all his interest, or in that a fixed per cent should always be his, in spite of himself, it would be of great value to the people of the United States.

The United States have very little interest in having inventions operated almost wholly for the benefit of the capitalist. Their interest is in providing money for the inventor to permit him to continue to invent, which he certainly will do as long as he commands a dollar. This is a natural peculiarity of the inventive mind.

That is a subject that I have not given any thought to myself, because I had not considered whether it would be possible for a law to cover a situation of that sort; but it is a matter, however, which seems to me should receive very careful consideration. Offhand, the only application of it that occurs to me is that certain undivided interests in the invention might be held in trust for the benefit of the inventor.

Mr. MACCRATE. That is, regarding the patentee as incompetent?

Mr. HOLDEN. Yes, on that theory; perhaps on the theory that a workingman—

Mr. MACCRATE. I am interested in that, because I made the same suggestion here myself. In thinking it over you have got to admit that the patentee is incompetent.

Mr. HOLDEN. Yes; you would have to admit that.

Mr. ERVIN L. DAVIS. You mean financially?

Mr. DAVIS. You mean financially?

Mr. HOLDEN. The law admits that the workingman is incompetent and gives relief when he is injured, under the compensation act, so perhaps this would be an extension of that idea.

Mr. DAVIS. And right along the same line, in a number of States, in the case of a railway ticket which contains a provision that in consideration of a reduced rate it will preclude the recovery in the event of injury to the passenger, and frequently in respect to the use of passes, et cetera, the courts have held that a man can not contract away his rights of that kind.

Mr. HOLDEN. It is exactly that principle, the idea being not to benefit the inventor, but the primary idea being to benefit the people by making it possible for the inventor to continue his experiments, thereby developing new inventions which would not be developed under the present system.

Mr. MACCRATE. As a matter of fact, is it not the practice now, where a man has demonstrated an inventive genius, for some of these men to take one of his patents and put him on a salary—a fairly good salary—and tell him to continue his experimental work, and they pay the expenses of the experimentation and then give him some royalty in any inventions he discovers? Are not some of the men who were formerly associated with Mr. Edison themselves now receiving \$20,000 per annum for doing nothing else but experimental work?

Mr. HOLDEN. I do not know what has become of the men who have been associated with Mr. Edison. A great many of them have become wealthy. Almost everyone in the electrical line has been associated at one time or another with Mr. Edison; at least a great many of them have.

The CHAIRMAN. Mr. Holden, the statement very often appears in print that Thomas A. Edison never made a dollar out of his inventions, but made whatever money he did make out of manufacturing.

Mr. HOLDEN. That is practically true, I believe.

The CHAIRMAN. I have seen that in print, that out of the invention itself, which, of course, gave him protection—that is, protecting his right to manufacture—he never made any money to speak of out of his first inventions, except as he had put them on the market.

Mr. HOLDEN. That is true in a large sense. Of course, he did receive lump sums for various inventions which he made from time to time, but those seemed small to him because he is in the habit of expending so much for his experiments. For instance, in inventing his storage battery he spent more than \$2,000,000 in cash, so the sale of a patent for a small amount would hardly be considered as furnishing the income which he needs for carrying on his inventing.

Mr. DAVIS. Can you give us a general idea as to his total expenditures made by Mr. Edison in experimental work?

Mr. HOLDEN. It would be a great many millions of dollars. I know of various lines in which he has spent \$2,000,000. He has spent that much on the phonograph, and he has spent that much on his various experiments for the milling of iron ore, followed by his experiments in the cement industry. I have not the faintest idea how much it would amount to.

Mr. DAVIS. Are you able to give any definite information as to the relative compensation received by men in the employ of Mr. Edison of the same character and qualifications as those in the Patent Office?

Mr. HOLDEN. Well, we find that it is necessary to offer salaries that are considerably larger than those that are paid in the Patent Office. That is true of all corporations which have patent departments. I do not know how high their salaries run, but the Patent Office man who is receiving \$1,800 from the Patent Office will expect at least \$2,500 from a corporation, and the higher grades proportionately. The effect of higher salaries in the Patent Office, it seems to me, will be to make it possible for the men to stay there who wish to stay there. I think that there will always be resignations from the Patent Office, because men who are ambitious will see openings for the practicing of patent law and for other work on the outside which will lead them to resign, but the number of resignations, it seems to me, should be smaller. Under the old system and under the present system the salaries are such, I should say, as to make it impossible for the man who likes the work and who likes to live in Washington and would like to stay, to do so. He is not able to do so, in justice to his family, because he is not able to give them what they have a right to expect from a man of his attainments.

Mr. MACCRATE. Can you say how many men who still remain in the Patent Office were there when you were there?

Mr. HOLDEN. I entered the Patent Office in 1898 at the time that there was a general increase in the force. The force was too small and Congress had authorized the appointment of possibly 20 or 30 additional examiners. I came in at that time and my first acquaintances in the Patent Office were the men with that contingent, and I can not remember any of them that are there now. Those that I knew best—and I could name probably a dozen of them—left probably within five years of the time that I did, and they are practicing patent law in various cities, and are connected with various corporations in their patent departments. They were all about the same age as myself.



Mr. MACCRATE. Do you believe that any amount of salary would keep those men there?

Mr. HOLDEN. I think it would keep some of them there. Those who wanted to stay, those who liked the work and who liked to live in Washington, I think would have stayed.

Mr. MACCRATE. I am not opposed to the increase of salaries, but the suggestion was made that by the increase of these salaries you are going to keep the men there permanently in the patent service. Now, as a matter of fact, the average man in that service is a man of fairly good capabilities who sees his opportunities all about him for far more remuneration.

Mr. CARR. Some of the good men stay as it is, and I think a larger percentage would stay if they had increased compensation.

Mr. HOLDEN. It is a matter of percentage. You will not keep all of them, no matter what you pay.

Mr. MACCRATE. We do not want to keep them all. I do not think for the man's sake he ought to stay.

The CHAIRMAN. The statement has been made here, and possibly you may not know what the condition is, that a greater percentage of men have left the Patent Office in the last few years since prices have gone sky high than in times gone by.

Mr. HOLDEN. I can believe that very readily.

The CHAIRMAN. And that now they have a large number, Mr. Ewing said, of temporaries, which was not the case then.

Mr. HOLDEN. No; there were no temporaries when I was there. In fact, there were not many resignations. I think it was probably due, though, to the depression in business conditions at that time. I know the promotions seemed very slow when I was there.

Mr. MACCRATE. In 1898, 21 years ago, the development of our industry, so far as the creation, development, and establishment of independent patent systems in these industries is concerned, was not as prevalent as it is to-day.

Mr. HOLDEN. No; that was about the time when the large companies were being formed, and there were very few patent departments then. I think that would probably account for the difference.

Mr. DAVIS. Have you heard the discussions before the committee with respect to the personnel of this proposed court of patent appeals?

Mr. HOLDEN. Yes.

Mr. DAVIS. I would like to have your views on that.

Mr. HOLDEN. That court, it seems to me, would be a very advantageous thing. It should not be looked upon as a drastic change over anything we have had before, because it is almost the same as going back to the original plan. The original plan of the patent courts was for the cases to be tried in the circuit courts and from there they were appealed to the Supreme Court of the United States. That system worked admirably. There was no objection that I know of, and it resulted in the law being absolutely definite and certain, because when you wanted to know what the law on a particular subject was you looked up the Supreme Court opinions until you found it, and then you had it; but that is not the case now. When I was in this law office in New York I used to look up the law for the head of the firm, and he would give me a topic, and I would report to him. He would say,

"Well, what did you find?" I would say, "In the first circuit the law is this way; in the third circuit it is just the opposite; and in the second circuit—that is where we were—the question has not come up yet." So then he would have to read the decisions in the first and third circuits, and from his knowledge of the judges in the second circuit figure out how they would decide it when it came up to them. So I think it would be an advantage to get away from that system.

Now, as to the appointment of these judges, it seems to me this would be admirable to secure good judges. I was interested in this discussion that came up as to what Mr. Fish said and as to what Mr. Sprague said. I do not think there was any real discrepancy there. I think that a good patent judge is recognized as such not only by his brother judges, but by the patent bar, and certain judges who have certain qualifications of mind are good patent judges. You can read one of their decisions, and if you are familiar with the patent which is involved and with the references which were set up as exceptions, if you are a patent lawyer, you can quickly make up your mind whether he is a good patent judge or not. I should say that there are two kinds of men who are not good patent judges. There are some men who are so hopelessly unmechanical that they can not understand a patent case, and a judge of that sort should not try a patent case. Some of them admit that they can not understand them. Others, from their decisions, show that they do not understand them.

Mr. MACCRATE. That is what you say when you are beaten.

Mr. HOLDEN. Yes; that makes a very good alibi.

The CHAIRMAN. Mr. Holden, some of the members of the committee probably heard the point brought out. Taking that as a fact, then, that the opportunities of drawing from the district and circuit judges are limited, then the appointing power would be naturally limited to men who he felt would be specially fitted for this class of work. What are you going to do to fill the places of those men that you draw to Washington from their respective districts?

Mr. HOLDEN. It seems to me, if circuit judges are appointed, that the other circuit judges can take care of the work in the circuit court of appeals, especially since the district judges sometimes sit with the circuit judges on the court.

Mr. EWING L. DAVIS. Suppose they are overcrowded already with their general work?

Mr. HOLDEN. I think this will relieve them from that condition: You see, there will be no more patent cases before the circuit court of appeals after those that are pending are disposed of, and that will relieve them to such an extent, I should say, that they can spare a circuit judge for this court. I think it would be difficult to take a district judge. I do not see how that can be done.

Mr. DAVIS. Why would it not be proper to authorize the appointing power, whether it be the President, the Chief Justice of the Supreme Court, or whatever authority is authorized, to appoint an independent court, authorize him to draw the judges of the court of patent appeals from the existing judiciary or from the bar, and when they are appointed have them become members of this court, and if they are previously members of other courts and desire to accept this position make it necessary for them to resign, so that their places where they come from would be permanently filled and they

would keep the place here permanently or for as long as they might be appointed? What would be the objection to that? My reason in asking that is that my experience and observation is such that I am convinced that the proposed plan would disarrange the judicial system in such a way that it would create very great complaint and opposition.

Mr. HOLDEN. Well, it does not seem to me that it would disarrange the system, for this reason: It is not a very unusual thing for judges to come even into another circuit. When the judges in the second circuit are overburdened, as happens there once in a while, it is not unusual for a judge to come up from Baltimore or to come from Chicago and be assigned a docket of cases and try those cases. The judiciary system permits that to be done, and if there is a shortage of judges in one district, as a temporary matter it can be taken care of in that way.

The CHAIRMAN. That is all right for a few months or maybe a year, but how about six years; or it may be that a man is such an excellent selection that they may want him for an additional six years. How are we going to take care of the business in that particular district or circuit?

Mr. HOLDEN. In some circuits there are four circuit judges. It is possible for a circuit to get along with two circuit judges. There is a surplus of two right there, and I believe the Circuit Court of Appeals would be relieved of such a vast amount of work that they will not notice the absence of one circuit judge, not so that it will handicap them.

Mr. DAVIS. You overlook a very important feature about court work. I suppose nearly every court in the country, through necessity, divides its work. One court will take this record, another part of the court takes another record, and so on, and then they go around. He will take that out and examine it and draft an opinion and submit it to the full court. They accept his finding of facts, and if they reach the same conclusion that he has they concur with him and make it the opinion of the court. He, if he has not already done so and an opinion is to be written, writes the opinion. At the same time he is doing that with respect to one case all of the other members of the same court are doing the same thing with respect to other cases. The work is such that it is an absolute physical impossibility for all of the members of the court to give their attention to each case. Now, consequently, whenever you reduce the number of the court you reduce the working capacity of the court.

Furthermore, with respect to the district judges, to give you a concrete example, the district judge in my State is more than a year behind with his work, and getting more behind all the time, although he is a capable judge, and for six or eight years the Senators and Representatives from that State have each term introduced bills and endeavored to procure the appointment of an additional district judge, because that district judge has already presided in two different districts and they simply have been endeavoring to create another judgeship to sit in the middle Tennessee district and permit the present judge to sit in the east Tennessee district, and yet Congress, session after session, refuses to create that judgeship because of the additional expense attached to it. Now, that is the actual condition.



Mr. HOLDEN. I agree with you that it would not be possible in any case that I know for a district judge to accept a position on this court, because there is nobody to take his place; and this law would not lessen the number of cases in the district courts but it would lessen the number of cases in the circuit courts of appeals and it would lighten the labors of those courts to exactly the same extent that the cases were handled in Washington.

The CHAIRMAN. If you took six circuit judges you would lighten the labors of the others?

Mr. HOLDEN. Yes.

The CHAIRMAN. But somebody would have to take their places if you took those six circuit judges from several circuits or from six circuits. The question is, What is going to become of the work in those circuit courts while those men are here in Washington for six years or longer?

Can it be distributed around in such a way that there will not be any interference with the efficiency of the courts? I have this in mind. In Iowa we have not been so active in trying to get an additional judge out there, but there have been a lot of cases growing out of the war, of different kinds—violations of neutrality and cases like that, cases in connection with the Army regulations regarding women and whisky—all those cases coming into the United States courts wherever you have got a big military establishment, and the business is growing enormously. When prohibition came, that has added to it. Bootlegging, moonshining, and such things as that. I am not a lawyer, but some of the members of this committee are fearful that you are going to interfere with the work of the district or circuit courts. What great fundamental objection is there to creating a court of patent appeals to be distinctly a court of patent appeals? We have heard from others here. Do you fall in line with their idea that a man might become narrow or might become a bureaucrat or something like that?

Mr. HOLDEN. Yes; I think it would work that way.

The CHAIRMAN. You think the work of a man sitting continually hearing cases on appeal—patent cases—would be such that he would get into a groove, and it would be dangerous to have that sort of court?

Mr. HOLDEN. It seems that way to me.

The CHAIRMAN. Let me press this point a little bit further. Here you have a man sitting in the Patent Office who in a way occupies a similar position, a man that is the most important in your whole structure—that is, you patent commissioner.

Mr. HOLDEN. We have a right to appeal from the patent commissioner to the Court of Appeals of the District of Columbia.

The CHAIRMAN. And you have six besides the chief justice's mind working in these appeal cases. At least five of them must be present at any time that an appeal is heard.

Mr. HOLDEN. That, of course, would make it better.

Mr. DAVIS. Then the right of appeal to the United States Supreme Court by certiorari from the court of patent appeals.

The CHAIRMAN. It is an unusual thing for the committee where they have an opportunity, to go to Congress with a bill that does not provide for any additional judges; but we can see each district and

each circuit of the country immediately shooting at that target; and unless we can find some means whereby we can assure them that the efficiency of the district and circuit courts throughout the country will not be disturbed, when they are all holloing for additional judges, I do not know how we are going to get by.

Mr. HOLDEN. It is a peculiar thing, or it is an almost unheard-of thing, for a patent lawyer to be appointed a United States judge. I do not know why that is; but if he were appointed——

The CHAIRMAN. Maybe there is not enough money in it.

Mr. HOLDEN. That had not occurred to me. I think a great many would accept appointment if it were offered to them. But I do not believe that any patent lawyer would wish to try a patent case before a judge who had been a patent lawyer. If he had his choice he would take it before the judge who had never been a patent lawyer.

Mr. DAVIS. Why is that?

Mr. MACCRATE. Because he could fool the judge who had not been a patent lawyer.

Mr. McDUFFIE. It would seem to me that he would want a man who knew something about it.

Mr. HOLDEN. He would know too much; he would not pay attention to what you were saying, but would jump at conclusions.

Mr. MACCRATE. Will not six years do that?

Mr. HOLDEN. Judge Hand recommends a shorter term, and I do not know of anyone whose advice would be more valuable than that of Judge Hand.

Mr. DAVIS. If a man had had, say, 15 to 30 years' experience in general practice or as a judge, with general jurisdiction, and came fresh from the people, you might say, without having specialized in patent cases, do you think, after that long experience, and having acquired the habits of thought and study and mind application which he would possess, and having reached the stage in life personally that he would naturally have fixed and definite standards, do you think there would really be any grave danger of his becoming so narrow that he could not render efficient service?

Mr. HOLDEN. Well, is the assumption that he be appointed from among the present force of judges, or from the bar?

Mr. DAVIS. We will permit the appointive power to do either, and he would possibly do both if there were no restrictions, because, you understand, the appointive power could not tell a present Federal judge to resign his position to take this.

Mr. HOLDEN. No.

Mr. DAVIS. He might not find a sufficient number who were willing to do it, who were otherwise capable, of the right age, etc. Now, to be perfectly frank, as you have already indicated, does not the reason for this provision requiring the appointive power to take these members of the court of patent appeals from the present judiciary grow out of the fear that the appointive power, by reason of them being specialized, might feel compelled to appoint patent attorneys on this court?

Mr. HOLDEN. I do not believe there is the slightest expectation that any patent lawyer would be appointed to this court, unless possibly it is the chief justice of the court, because, as I say, in some cir-

cuits where there is a great deal of patent litigation—for instance, New York—it has never been the custom to appoint a patent lawyer. I do not know of a single case where a patent lawyer has ever been appointed to a United States judgeship.

Mr. DAVIS. That is, courts of general jurisdiction?

Mr. HOLDEN. Yes. The only one I can think of is when Judge Duall was appointed in the District of Columbia to the court of appeals here. I do not know of any other case. It is true that those courts are of general jurisdiction, but patent lawyers are subjected to the same requirements that general practitioners are.

Mr. MACCRATE. I do not know whether you got my colleague's question or not. I am not certain, but his question, as I understood it, was, if you do not take these circuit-court judges are you not afraid that the appointing power would appoint patent lawyers in the establishment of a patent court?

Mr. HOLDEN. Well, that contingency had never occurred to me. I do not know whether the appointing power would look at it that way or not.

Mr. McDUFFIE. Let me ask you a question. About how many judges do you think, in the event this court is established, could do the work? Do you think seven are necessary?

Mr. HOLDEN. I know there would be a good deal of work. The principal circuits where patent cases are heard at present are, first, Boston, New York, Philadelphia, and Chicago. I do not know what percentage of the time of those judges is taken up with patent cases.

Mr. McDUFFIE. Mr. Fish stated, or some one stated yesterday about 10 per cent of the equity docket.

Mr. MACCRATE. Of all the docket.

Mr. McDUFFIE. Of all the docket.

Mr. PRINDLE. Ten per cent of all the dockets of the entire country, and 35 per cent, I think he said, for the northern circuit.

Mr. HOLDEN. Well, I really have not any idea. I suppose that question has been carefully considered by the committee.

Mr. PRINDLE. No; but it is a fact that 35 per cent of the time of the circuit court of appeals in New York was taken up with patent cases before the war, and that is a fair average, probably, for the other three cities you mentioned.

Mr. HOLDEN. It looks as though the one court could itself about take care of the patent appeals.

Mr. MACCRATE. How many circuit courts of appeal are there in the country—nine?

Mr. PRINDLE. Nine.

Mr. MACCRATE. And if it is 10 per cent of the work and you take one circuit judge from each circuit until you have taken seven, you would leave one court to handle the patent cases?

Mr. PRINDLE. Excuse me—six.

The CHAIRMAN. Five would constitute a quorum.

Mr. HOLDEN. It seems to me that I have brought out the points that I have in mind. The only point which I have not touched upon is this: I think I have mentioned the question of salaries in the Patent Office, which seem inadequate, as measured by commercial standards.



The other point is the separation of the Patent Office from the Department of the Interior. I think it should be looked at in this way, that the Patent Office is in a class by itself. Its work is not analogous to that of any other bureau. It is popularly supposed to be separate. You come to Washington and you look over the public buildings and you see the Patent Office. When I first came to Washington and saw the Patent Office I had no idea that the Department of the Interior was housed in the Patent Office or that the Patent Office was a branch or a bureau of the Department of the Interior. The Patent Office antedates almost all of the other bureaus or departments. The patent system began with the birth of the Government. Although it was at first, I believe, handled by the Secretary of State and later by a different department, it was eventually put into the Interior Department, but it long antedates the Interior Department. I think that should be considered. Why should the Patent Office, which forms the very basis for our industrial development and wealth, be considered subsidiary and simply put in as one of a class of bureaus which were developed and created many, many years subsequent to the Patent Office?

Furthermore, the Patent Office is in a sense a judicial department. It is true that the Commissioner of Patents does not have the title of judge, but he is a judge. He sits in cases, interference cases, in which must be determined who is the prior inventor, and who is entitled to the patent, and it has simply been for convenience of administration. I suppose, that it was placed in the Department of the Interior as a bureau, but logically, it seems to me, it should not be there. There is no more reason why it should be in the Department of the Interior than that it should be in the Department of State, where it originated, or the Treasury Department, where it was located, I believe, for some time.

It seems to me that the question of separating the Patent Office should not be confused with the question of whether it can be administered a little more economically or cheaply as it is. It should be looked at in this way. Suppose you have a good and faithful employee who has been in your employ ever since your business was started. You have another employee whose line of work is entirely different, we will say, from his, but who draws a somewhat larger salary. We will call the first employee A and the later comer B. He would draw a larger salary than A, but he does not know anything about A's work, and he does not know whether A is doing good work or not. He does not know what A requires for his work. A comes to you and says, "Now, I would like to report separately to you. While I like Mr. B, there is no reason at all why I should be under him, because he does not know anything about my work, and he, in fact, has no right to give me any orders." Would not the employer be very likely to say, "Well, Mr. A, I believe you are right. I believe that you know what you need better than anyone else, and I want you to deal directly with me after this, and not through Mr. B." I think that is the way it should be.

The CHAIRMAN. I do not want to prolong the discussion on that particular subject, but I still would like to have somebody enlighten me as to some good and sufficient reason, and some reason that would

show for greater efficiency, other than the dignity of the Patent Office, especially in view of the fact that the Secretary of the Interior has not interfered with it, for separating the Patent Office from the Interior Department. If he had interfered with it or obstructed the business of the Patent Office, then there would be some reason why they should be detached, but he has not.

Mr. HOLDEN. I think it would tend to make it more efficient, for the same reason that Mr. A would do better work for you if he came in personal contact with you.

The CHAIRMAN. That is a very poor argument for the present inefficiency. If you can not take in men down there who are loyal enough and efficient enough under the present administration or past administrations, where it is admitted that the Secretary of the Interior does not interfere with the organization itself, it seems to me that you would have a hard time to get that loyalty and efficiency simply because you built up an independent bureau or some independent structure.

I could go into that more thoroughly by citing the United States Public Health Service, a service that I think, first of all, is one of the most important attached to our Government, the conserving of the health of 100,000,000 or more individual people of this country, but their experience has been a sorry one with Congress as an independent bureau, and I think the other independent bureaus could give you a similar experience. Unless we can go to Congress and show some reason for detaching the Patent Office from the Department of the Interior, some substantial reason that, in my estimation, has not been shown here yet, I do not think we can get very far.

Mr. McDUFFIE. I would like to know how many employees there are in the Patent Office.

Mr. PRINDLE. Nine hundred and twenty-nine.

Mr. DAVIS. Mr. Prindle, as bearing upon the merits of the suggested raise in salaries, will you have prepared a brief synopsis of the qualifications required of these examiners and other experts, and the character of the examinations to which they are subjected before they are appointed, for the use of the committee?

Mr. PRINDLE. I will be glad to. I am sure Mr. Coulston, the chief clerk of the Patent Office, would be glad to do that, because I should have to go to him for the information. Will you not, Mr. Coulston?

Mr. COULSTON. I think I can do that.

Mr. DAVIS. I will state that it is not necessary for me, but I think it might be necessary on the floor of the House for such information to be available.

Mr. PRINDLE. And the other statement you have asked for has been prepared. Mr. Newton will prepare that.

The CHAIRMAN. The committee will adjourn until to-morrow morning at 10.30.

(Whereupon the committee adjourned, to meet tomorrow, Saturday, July 12, 1919, at 10.30 a. m.)

COMMITTEE ON PATENTS,  
HOUSE OF REPRESENTATIVES,  
*Saturday, July 12, 1919.*

The committee met at 10.30 o'clock a. m., Hon. John I. Nolan (chairman) presiding.

Mr. PRINDLE. Mr. Chairman, I desire to introduce my friend, Mr. Charles L. Sturtevant, chairman of the committee on law and rules of the American Patent Law Association.

**STATEMENT OF MR. CHARLES L. STURTEVANT, CHAIRMAN COMMITTEE ON LAW AND RULES OF THE AMERICAN PATENT LAW ASSOCIATION.**

Mr. STURTEVANT. Mr. Chairman, I shall take only a few minutes of your time. I am not going into the merits of the bills to any particular extent at this time, although I may want to speak in regard to the bills later on. The suggestions I have to make this morning are some few, not immaterial, but short amendments to the bill No. 5011, as presented. I will hand you a copy of the proposed amendments. The first one is to section 440 of the bill. As this bill is drawn it provides "that as much of section 440 of the Revised Statutes as follows the words 'in the Patent Office' and refers to said office only be repealed." As a matter of fact, the words "in the Patent Office" should be taken out, because the reference to the Patent Office has been taken out of it. We therefore suggest that section 440 should be amended so as to take out all words relating to the Patent Office, beginning with the words "in the Patent Office." This is purely a typographical error.

The CHAIRMAN. Have you a copy of your amendments?

Mr. STURTEVANT. I am leaving a copy with the reporter. On page 3, line 8, I suggest that the word "law" be changed to "civil-service laws." The Patent Office is pretty generally recognized as being completely under civil-service laws. I understand that that suggestion meets with the approval of Commissioner Newton. Is that right, Mr. Commissioner?

Mr. NEWTON. Yes; that is right.

Mr. STURTEVANT. On page 6, line 19, after the part of word "table," that being a part of the word "disreputable," we suggest that the words "or guilty of gross misconduct" shall be inserted. That is in accordance with the old section, and gross misconduct might really include something that was neither incompetent nor disreputable.

The CHAIRMAN. Let me make this suggestion, that the suggested amendments you have there will be made a part of the hearings, but I would like to have another copy furnished the committee.

Mr. STURTEVANT. Yes; we can furnish copies.

On page 8, line 7, we suggest that the word "bimonthly" should be "monthly." That is in accordance with the existing practice.

On page 7, line 5, there is a change that has been suggested by the Commissioner of Patents for the insertion after the word "determine" the language—

Provided the petition for review be filed within 45 days, Sundays and holidays included, from the date of such refusal by the commissioner."



At present, appeals from the Patent Office to the courts are allowed within 40 days, exclusive of Sundays and holidays. There should be some time limit upon those appeals, and we have suggested 45 days, including Sundays and holidays.

On page 12, line 25, we suggest that after the word "involved" there should be inserted the following language:

And within one month after a decision is rendered or a decree issued the clerk of the court shall give notice thereof to the Commissioner of Patents.

The bill provides that they shall give notice of the filing of bills of complaint in connection with patents, and it seems to me that notice of the decree should be furnished the Commissioner of Patents and indorsed on the files.

As a further amendment to that section, I want to suggest that on page 13, line 1, after the word "to," there should be inserted this language: "Publish notice of the same in the Official Gazette, to."

That is, that the notice shall be published in the Official Gazette as well as indorsed on the files. That is suggested so that the notices will go broadcast all over the country. Of course, so far as the solicitors and attorneys here in Washington are concerned, it is easy for them to go to the Patent Office and order down the files and see what is indorsed by the office on them, but for many counsel on the outside who are interested in such matters that is not possible. They all take the Official Gazette, and it would seem that such notices should be published in the Official Gazette. I think that all of these amendments that I am suggesting, except possibly this one, are approved by the commissioner. I believe he does not approve publishing these notices in the Official Gazette, and I suppose he will speak on that point later.

Mr. MACCRATE. Is not that already in the discretion of the Commissioner of Patents anyway, without any legislation upon the subject?

Mr. STURTEVANT. He could issue an order to do so certainly. He can order published anything he wants in the Official Gazette.

Mr. MACCRATE. That might be a matter of good departmental discretion. You say he ought to publish them?

Mr. STURTEVANT. I can not conceive of any reason why it should not be done, except possibly the commissioner may feel that it means considerable work on the part of somebody in the Patent Office, or would require a lot of clerks to keep tab on those things and to see that those notices are referred to him to be inserted in the Gazette. I can not conceive of any other objection to it.

On page 13, line 15, after "\$15," we suggest the insertion of this language:

Where the filing fee paid has been \$20 and \$20 where the filing fee paid has been \$15.

In other words, that is to cover the cases that may be still pending in the Patent Office when this bill becomes a law, if it does become a law. In that event, the final Government fee would, of course, be \$20 in order to make the total amount \$35.

The CHAIRMAN. Is that an increase over the present rate?

Mr. STURTEVANT. No, sir; the rate remains the same. The total amount is \$35, as at present. The present filing fee is \$15, and what

we call the final fee is \$20. This provision makes the filing fee \$20 and the final fee \$15, and this amendment provides that when a filing fee of only \$15 has already been paid, the final Government fee shall still be \$20. If this bill should go into effect, the filing fee would be \$20 and the final fee \$15.

We suggest that the last clause or sentence, in lines 24 and 25, on page 13, be stricken out and the following substituted in lieu thereof:

For typewritten copies of records made by the Patent Office for every 100 words or portion thereof 10 cents; for other copies furnished by the Patent Office a reasonable charge for making the same; for comparing copies submitted for comparison with Patent Office records a reasonable charge therefor, with a minimum charge of 50 cents including certification.

The only important feature in which this amendment really differs from the present practice is this: The Patent Office for the last two years has been very much in arrears in its copy division because of the lack of help, and it is now. If we have to order 35 copies of papers to be used in court, it is almost impossible to get them within any reasonable time unless we have line for line and page for page copies made by our own clerks or by public stenographers, and then take them to the Patent Office and have them certified. Under the present law we have to pay 10 cents per hundred words. We have been paying that to outside copyists, and then, in addition to that, the Patent Office makes its regular charge of 10 cents per hundred words, thereby doubling the expense. We feel that in this instance where the Patent Office can not supply the demand within a reasonable time, and where we furnish the copies for certification, the only charge the Patent Office should make should be a reasonable time charge for comparing and, of course, the regular charge for certification. The idea of that amendment is simply to get rid of that double expense. In courts and in the Patent Office the expenses are heavy anyhow, and when you have to furnish a certified copy of a record that runs up to 150,000 or 200,000 words, it means a good deal to have to pay 20 cents per hundred words for the copy instead of 10 cents per hundred words.

Mr. MACCRATE. That additional revenue, however, might enable them to employ additional copyists or clerks.

Mr. STURTEVANT. But they do not do that. They can not get them. Of course, if Congress would let them have the clerks for doing the work, there would not be any need for making these copies on the outside. The trouble is that they have not enough clerks to make the copies and they have not been able to get them. Speaking for myself, and I suppose for all the attorneys and people interested in court cases, we do not object to paying the Government 10 cents per 100 words for the copies, and we would much prefer to have the work done by the Patent Office direct, and pay whatever their charge may be, than to take our own clerks off their regular work to make these copies which ought to be furnished by the Patent Office.

The CHAIRMAN. As you understand, one of these bills means almost double the amount of money now being spent for clerical and technical help in the Patent Office.

Mr. STURTEVANT. So far as I am concerned personally—and I have

The CHAIRMAN. This committee would have to give some consideration to the question of revenue if they expect to get anything like the number of clerks and the salaries provided in this bill.

MR. STURTEVANT. So far as I am concerned personally—and I have talked with my colleagues about the matter—if your committee will give the Patent Office the clerks to do this work, we would much prefer to turn all of this copying over to the Patent Office, instead of taking our own clerks away from their regular work to make these copies for submission to the Patent Office for comparison. Mr. Robertson just informs me that the change in the fee—that is, from a filing fee of \$15 to a filing fee of \$20, taking the average number of cases filed during the last five or six years—will make a difference of \$200,000 in the revenues.

THE CHAIRMAN. But that does not come anywhere near \$1,700,000.

MR. STURTEVANT. No, sir.

THE CHAIRMAN. We will take that up with the Commissioner of Patents and the chief clerk and see how it fits in.

MR. PRINDLE. Mr. Thomas E. Robertson, president of the American Patent Law Association, would like to address the committee on behalf of his association, which represents the bulk of the American patent bar, and in his personal capacity at some time next week or at the convenience of the committee.

I now desire to introduce Hon. James T. Newton, the present Commissioner of Patents.

#### STATEMENT OF HON. JAMES T. NEWTON, COMMISSIONER OF PATENTS.

MR. NEWTON. Mr. Chairman and gentlemen of the committee, it is rather embarrassing to me to ask this committee to listen to anybody any longer. You have sat here patiently for three entire days, and I am not going to take up much of your time; but I do want to say a few words, because I have been connected with this work for 20 years, and I probably see as much as anybody has ever seen the tremendous influence of Patent Office work and inventors' work on the welfare of this country. To my mind there is very little progress being made in our civilization now except through the development of science and her handmaid, invention. We talk about being so far ahead of other ages that are past. I do not know whether you have ever analyzed it to the last limit to see wherein we do surpass prior times and ages, but I do not think you will find that we are any better.

We have no better system of laws, perhaps, than the Romans had, and ours are possibly not so scientifically constructed. I do not know that we have made much progress in a thousand years in art of any kind. They say that the old Italian and Flemish masters have never been equaled, so far as painting is concerned, and I think that the same statement is true in other fields, as, for instance, in literature. What have we done in the last 100 years in literature? We have never had a Shakespeare since his time. Then, if you take the moral law, have we ever added anything to the wonderful maxims and principles that were announced by the Master 2,000 years ago? But, gentlemen, when it comes to doing things in an improved way, to improved machinery, to transportation, and to intercommunication, the world has never been anywhere near where we are now. This has all been the work of science, and, as I have said of her handmaid, invention. So that it seems to me that those are the only things that



we are making material progress in. If the world should come to an end to-day this would be known as the age of invention and of inventors. It would not be known as an age of literature or an age for development in the law or in architecture or in any of the fine arts, but it would be known as an age for the development of machinery. It seems, then, particularly appropriate that we should develop this part of our civilization. Seeing as I do every day the striving of inventors to do something better or something just a step in front of somebody else is an inspiration that has impressed my mind so deeply that, as I have said, at the expense of taking up a little more of your time, I wanted you to know how I felt with regard to the improvement of this system.

Coming to the bills specifically under discussion, I do not think it is worth while for me to say anything regarding the bill for the establishment of a patent office court of appeals, except possibly from an angle that has not been touched on by any of the others, and that is that we in the Patent Office are sometimes mystified to the detriment of our best work by the conflicting opinions in the different circuits. I will give you just one or two illustrations, and you will see what I am trying to say. Take, for instance, the Chicago circuit, or the judges of the circuit court of appeals, and the position that they have taken in cases where two applications are pending at the same time: As you know, applications sometimes stay in the office for several years. We are reducing that time as much as possible, and have reduced it. We will probably be able to reduce it to something like two or three years at the furthest. The average time that they stay there is about two years. Now, if two patents are pending there at the same time, or two applications for patents, and one of them gets out without what we call an interference, some of the circuits say that one is not a reference to the other, even though one is filed before the other, provided they do not claim the same thing.

Judge Denison, out in the sixth circuit, I believe it is, has taken the ground that they are references to each other, or that one is a reference to the other. In other words, the contention is that the later one must swear that he made the invention before the earlier one, following what he construes to be a line of decisions. The other judges have arrived at different conclusions from the line of decisions that they have followed, so that in the Patent Office we do not know what to do. There has been a recent line of decisions in design cases of this character: Some of the circuit courts say that they do not want any description of the designs. If a man has a design for an inkstand or doll, they say they do not want any description of it. They simply say, "There is the drawing, and that is my design." We are now having a lot of decisions on this line, that the inventors may tell what is the essential part of their inventions, or what is the prominent or dominant feature of their designs, and they say, "If you do not tell it in your specifications, we do not know what it is and we are going to look at the drawing and will do the best we can." So that in the Patent Office we do not know whether to require a man applying for a design to describe his design or to point out the dominant features in it, or to simply say, "Here is my drawing and here is my design," and let it go at that.

Mr. BABKA. Why is an application for a design or patent held in the Patent Office for two years or more? Is that because of the lack of clerks?

Mr. NEWTON. It is because of this, gentlemen: There is hardly any application for patent filed now but what is rejected the first time, and naturally so, and that is something that nobody that I know of can obviate. The attorneys do not know when they file the applications and the inventors do not know what has been done before. The inventor is not acquainted with the art ninety-nine times out of a hundred, and he comes in with broad claims. He claims and he thinks that the invention is very much broader than it is ordinarily, so that the office has to tell him that his claims are too broad. He then comes back and amends. We cite him to references, and we give him what patents have been taken out before he comes into the office, and he then amends his application and by rewording his claims he avoids those references. Then the office examines the application as amended. The applicant is given a year in which to do that, and frequently there are several communications passing between the office and the inventor before each is satisfied that the invention is properly claimed in the application. Taking the average of all of the applications we have, that process takes, I believe, about a year and a half or two years.

Mr. BABKA. It is similar to prosecuting cases through the courts?

Mr. NEWTON. That is right. Now, as I said, that is the part of this discussion which interests me, and I am going to lay it candidly before you for your action. There has been a bill submitted here for large increases in salary. I will leave that to your judgment, but what I am up against in the office at the present time is quite a serious thing. I have been connected with the Patent Office since 1891, and I am sure that the office was never in so poor a condition as it is now. It is poor in this respect, that I can not get examiners, and gentlemen, that is our principal work. The object of the Patent Office is to grant patents, and what I shall say for a while at least will be confined to the examining corps of the office, that being a corps of about 400 men. I can not get men to come there at the present salaries. We have 85 fourth assistant examiners places, and men will not take them. They will not even take them without examinations at the present salary, so that I can not keep my lowest places filled. In this connection I would like to announce to this committee that if you know of any well-trained mechanics and college men, or men with equivalent training to that, I would be glad if you would send them to me. We have advertised for them in the papers, and we have done everything we can to get them, but it is almost impossible.

Mr. MACCRATE. What salaries do you pay?

Mr. NEWTON. \$1,500.

Mr. MACCRATE. Must they be college men?

Mr. STURTEVANT. It practically requires college men.

Mr. NEWTON. I will say something about that in a minute. It is a bad situation for a Government department not to be able to get men to fill positions. That was not true when I went into office and it has not been true except since the war began. Whether it is to be

a permanent condition, you know as well as I do; but before that time we had no trouble in getting good men through the civil service, and the test that they give those men for entrance to the office is quite severe. That is bad enough; but, worse than that, we can not keep the men who are there. We are losing now about 25 per cent of our examining corps every year. Twenty-five per cent of them are going out by resigning. There is a tremendous demand for scientifically trained men just at this time, and those men will not stay in the Patent Office for the salaries that they are paid. Now, I see that the committee has presented to you a bill for an increase in those salaries. You are not bound by those specific increases, but we must have something to keep us going, or else the office is going to deteriorate seriously.

The CHAIRMAN. Can you have the chief clerk give us some idea as to the turnover in your force from year to year?

Mr. NEWTON. Yes, sir; I have that data here, and I will submit it in record form. I want to submit, Mr. Chairman, as it will show you better than I can tell you, the last civil-service examination for admission to the Patent Office. With your permission, I will put this into the record and you can look it over.

Mr. MACCRATE. Which grade does it cover?

Mr. NEWTON. It covers the lowest grade, or the grade of fourth assistant examiner. There is no examination after that, but they are promoted. We have in the Patent Office at present a system of promotions of this kind: We have an examination about once a year or once every two years, or as soon as the list is exhausted, on patent law and practice. It covers the work that they actually have to do in the Patent Office and we grade those clerks according to the standing that they make on that examination and promote them right down the list. We take into consideration other things than what the examination shows. For instance, we take into consideration the length of service, a man's reputation for good work, attention to duty, industry, etc. They are promoted right down the list, from grade to grade, until they get to be primary examiners. I will submit this statement, showing the last examination for appointment to the Patent Office.

(The matter referred to is as follows:)

#### SUBSTANCE OF QUESTIONS ON TECHNICS.

[Time estimate 3½ hours.]

1. Manufacture of porcelain, steps in process.
2. Production of zinc oxide: (a) American process, (b) French process, (c) manufacture of vulcanized rubber.
3. What are the uses of tungsten, chromium, nickel, and ferrosilicon and ferromanganese in metallurgy. Give chemical and physical effects of each.
4. Manufacture of carbide, calcium carbide, carborundum, carbon disulphide; give reactions of each; give description of furnaces in their production.
5. Name five sources of fertilizer; description and preparation of each ready for use.
6. Production of copper; copper matte through refining.
7. Describe a shrapnel shell ready for use.
8. Describe a 5-kilowatt radio set; installation; diagram connections for sending and receiving apparatus.
9. Give methods, sketch, and diagram electrical production of nitrates from the atmosphere.



10. Construction and operation of a uniflow steam engine; (*a*) Diesel oil engine; (*b*) sketch ideal indicator cards, discuss thermal and mechanical efficiency of each.

11. What are the advantages and disadvantages of compression and absorption system of refrigeration. Discuss installation using one of each. What are the advantages and disadvantages of carbon dioxide and of air as refrigerants.

12. Describe the construction of a large, modern gun for coast defense or naval use.

13. Discuss theoretical tooth outlines used in gears, the practical process of gear cutting; mention what extent the fundamental gear deviates from the theoretical line.

14. Describe the mechanical construction of a constant current transformer used with series street-lighting system; name sources of loss in a transformer and relative amounts at no load and at full load current.

15. What is picric acid; from what made; from what are its constituents made; for what used; give chemical actions in (*a*) and (*b*). Manufacture of black or smokeless powder.

Two questions from first six and three from last nine required.

#### PHYSICS.

1. Define (*a*) dyne, (*b*) amplitude, (*c*) beats, (*d*) occlusion, (*e*) impedance.

2. Explain a slide, wire, Wheatstone bridge, and explain fully the method of using it.

3. Cubic sheet of metal 100 sq. cm., 6 mm. thick, is exposed to a temperature of 100° C. on one side and 0° C. on the other. Find the time traversing the plate. Sp. cond. of cu. 713.

$$\frac{713 \times 100 \times 1 \times 100}{.06}$$

4. (*a*) Define the first and second laws of electro dynamics, (*b*) define isothermal expansion, (*c*) define adiabatic expansion.

5. (*a*) Make a drawing and explain fully the operation of the ordinary force pump, (*b*) Sprengel air pump.

6. (*a*) State five types of simple machines, (*b*) define mechanical advantage, (*c*) define efficiency of a machine.

7. (*a*) Describe fully the principles of the gyroscope, (*b*) explain precession, (*c*) give two distinct examples of gyroscopic action.

8. (*a*) Explain radio activity, (*b*) the X ray.

9. Describe Kuntz's method for determining the velocity of sound.

10. (*a*) Describe Fresnel's biprism, (*b*) draw and explain the diffraction grating.

11. Three hundred grams of shot at 100° C. are dropped into a glass beaker weighing 30 grams and containing 60 grams of water at 0° C. and 2 grams of ice. What will be the final temperature sp. heat of glass 2; lead 0.0315.

#### CHEMISTRY.

1. Define (1) colloid, (2) halogen, (3) ketone, (4) aldehyde, (5) paraffin.

2. Name two reducing agents, two oxidizing agents. Give a chemical reaction illustrating each.

3. Describe the preparation of chloroform giving the chemical reactions (by formulas).

4. Describe manufacture of glucose (by formulas).

5. Qualitative analysis (1 question).

6. Structural formulas of isopropyl, etc. (1) What is meant by primary, secondary, and tertiary alcohol.

7. Complete and balance five reactions.

8. Give complete description of manufacture of Fe.

9. How much MnO<sub>2</sub> is required to react with hydrogen chloride to form 100 grams of chloride?

10. Where are the principal deposits of sodium nitrate found, for what is it used, and what is its commercial industrial value in the arts?

## MATHEMATICS.

Answer any five.

1. What common fraction when written as a decimal is .1234? Give your process in full?

2. If  $a$  and  $b$  are real and have like signs prove that  $\frac{a}{2b} + \frac{b}{2a} > 1$  for all values?

3. Give the angles and the sum of the sides of a triangle, to construct the triangle.

4. If two parallel planes are cut by a transversal plane, prove that the intersections are parallel.

5. If the span of a parabolic curve is 40 feet at its base and the crown is 12 feet above the ground, what is the span of the arch at 3 feet below the crown?

6. Find the coordinates of a point equidistant from the points (3,2) and (-3,4) the slope of whose chord return to the center is on the line to (1,5).

7. Given the ellipse  $x^2 + 3y^2 = 28$ , and the two points, (5,1) and (-4,2), find the coordinates of the point on the ellipse such that the triangle formed by joining these points has a maximum value.

8. In any plane triangle whose circumscribing circle has a radius of  $r$ , prove that  $\frac{r=c}{2 \sin C}$ .

9. Find the limiting value of  $(\log x/x)^{1/x}$  when  $x$  is infinite. If  $u=yx$  prove that  $\frac{d^2u}{dx dy} = \frac{d^2u}{dy dx}$ .

10. Prove that:

$$(a) \ 1 + \frac{\tan \frac{1}{2} A}{\cot A} - \sec A = 0.$$

$$(b) \ \sin (A+B) \sin (A-B) = \sin 2A - \sin 2B.$$

Mr. WHEELER. Did you say you have 85 vacancies?

Mr. NEWTON. There are not 85 vacancies, but there are 85 fourth assistant examiners authorized, and we have not been able to fill all of the vacancies, or scarcely any of them, through civil-service examinations.

The CHAIRMAN. What is the status of those men now? Are they civil-service employees or temporary employees?

Mr. NEWTON. They are temporary employees.

The CHAIRMAN. They have no civil-service status?

Mr. NEWTON. No, sir. I can not put them under civil service or put them permanently in the civil service. The Civil Service Commission, because they could not furnish me any men, allowed me to appoint these men temporarily. They are only temporary appointees, and they will have to go as soon as the Civil Service Commission is able to furnish me the men. As I have said, they have not been able to furnish any since the war began, or very few. They have probably not furnished more than 6 or 8 men out of 100. There are some temporary appointees who have come in and stood the examination and then been made permanent in that way, but the Civil Service Commission has given me only about 6 or 8 men in the last two years when I needed about 100 from the outside. I put into the record the last civil-service examination, and you will see from that examination what is required in that grade. The committee might ask me, "Why do you not lower the grade?" Gentlemen, I am afraid to do it. You heard Judge Hand yesterday in his statement as to what these men are doing.

These assistant examiners and primary examiners in the Patent Office are doing identically the same work that the Federal judges are doing. Nine-tenths of the work of those examiners is this: They

have a certain device here as shown in a patent, and here is another device, and the question is, "Is this device patentable over that?" That is all the work that the judge is doing in patent cases. In the circuit court of appeals the judges are doing in patent cases just what these men are doing. It is for these men that I am asking your assistance. They are passing on these questions, and they are questions that frequently involve immense amounts of money. I have allowed a patent myself that I was told paid royalties amounting to millions of dollars. To litigate this matter and allow an inventor to claim exactly what he is entitled to and prevent him from claiming anything that has been done previously by anyone else is one of the most difficult, intricate, and well-balanced problems that you can imagine. There has been a good deal said here by people from outside the office that might be misleading to the committee. I can not begin to mention all the matters, but there was a little thing a few days ago that I will call attention to. Mr. Fish remarked that it was a remarkable thing to him that there was nobody who had stolen anything in the Patent Office. The truth about the matter is that it is no temptation at all, because those inventions go through the Patent Office as a matter of course. We very seldom recognize an important invention.

We have got to look at thousands of things that are presented to us, and all in about the same light. The patent that I referred to that I allowed several years ago and that became so valuable was one of those. I had no idea that it was so valuable at the time it was pending. Indeed, the inventor allowed his Canadian patent to forfeit in five years, because he did not think it amounted to anything. Yet it has been the life of the phonographic art itself. It is the flat disk record we see everywhere. As I have said, I have not been able to keep these men in office. Some time ago, a year ago, or even before the war, I took this problem up and tried to solve it. The German patent office probably, next to ours, is the biggest patent office in the world, and they have no resignations from their corps, or they are very seldom. Before the war, as I said, I tried to find out why the Germans had so few resignations as compared with our own Patent Office. In making that investigation we adopted this plan: We wrote to about all the men that had resigned from the Patent Office in the last four or five years, amounting to 128 people. We asked each one, "Why did you resign?" We put a series of questions to them, asking them such questions as these: "Why did you resign? What salary did you get when you left the office? What would you, now since you have resigned, recommend that the office should do to keep these men?" We got answers from a great many of them, or from most of them, and I would like to put a statement of that in the record, so that you can see what these men were thinking of. I will read you a little of it.

In reply to the question as to what was the average salary they received when they resigned, their answers showed that out of 128 the average salary received was \$1,882. That was the average salary when they resigned from the office, or the average salary of the 128 men was \$1,882. The average salary received by them the first year after they resigned and went out into private business was \$2,478. That was before the war, when things were not on the same basis



as now. Some of those men had been out for four or five years, and we wanted to know what their salaries were at that time to see if they had kept going up faster than they would have done in the Patent Office, and from the answers received it appeared that the average salary or income, exclusive of office expenses, received by them at the time of the reply was \$4,500, which they never would have received in the Patent Office, and that was about two or three years after they left the office. I would like to put this entire statement into the record.

The CHAIRMAN. Without objection, it will be incorporated in the hearing.

(The matter referred to is as follows:)

Letters were addressed to 128 men who have resigned from the office during the years 1911-1917, inclusive, and 70 replies were received. The responses show that:

The average salary received by the 70 who replied at the time of resignation was \$1,882.

The average salary received by them for the first year after resignation was \$2,478, an increase of 31.6 per cent.

The average salary (or income exclusive of office expenses) received by them at the time of the reply was \$3,895, an increase of 107 per cent over that received just before resignation.

Of these men 38 resigned during the year 1914, or prior thereto, and hence had been three or more years out of the office.

The average salary of the 38 at the time of resignation was \$1,852.

The average salary of the 38 for the first year after resignation was \$2,377, an increase of 28 per cent.

The average salary (or income exclusive of office expenses) received by the 38 at the time of reply was \$4,558, an increase of 145 per cent over that paid by the Government at the time of their resignation.

*Comparative statement showing salaries received in the Patent Office, salaries paid outside the Patent Office, and salaries proposed for corresponding grades of examiners under H. R. 6913.*

[Instances cited are of resignations occurring between May 1 and July 1, 1919.]

Grade of men.	Resigning official salary.	Beginning outside salary.	Proposed salaries under H. R. 6913.
1 principal.....	\$2,700	\$4,000	\$4,000
5 second assistants.....	2,220	12,920	2,700
2 third assistants.....	1,920	12,500	2,200

<sup>1</sup> Average.

The CHAIRMAN. Have you a tabulation showing how many of the men to whom you addressed that letter had resigned to take positions as patent advisers?

Mr. NEWTON. I have a record that will show that.

Mr. WHEELER. What do you pay the chief clerk?

Mr. NEWTON. \$3,000.

Mr. WHEELER. Mr. Woolard resigned about a year ago. What does he receive now?

Mr. NEWTON. He told me he was making from five to six thousand dollars.

Mr. WHEELER. Did he not receive that position when he resigned from the position in the Patent Office on account of the knowledge he had acquired in patent law and patent procedure?

Mr. NEWTON. I think undoubtedly he did. He went with a patent firm.

Mr. WHEELER. It is probably true that men of experience as examiners in your office, after having been in there for several years, receive great deal better compensation on the outside, after having acquired the knowledge in your office, and they, therefore, resign.

Mr. NEWTON. I want to be perfectly frank with the committee about that. I do not believe you will ever raise the salary so high, or that you could practically make the salary so high, that some of those men would not resign.

Mr. MACCRATE. Your percentage of resignations, in other words, would be greater than that in any other department, practically?

Mr. NEWTON. Yes, sir; I think that probably it will always be greater.

Mr. MACCRATE. That comes about because of the character of the men who enter and the opportunities they have in your service for bettering their condition through outside employment?

Mr. NEWTON. Yes, sir.

The CHAIRMAN. During the last two or three years, has the number of resignations been greater than prior to that time?

Mr. NEWTON. Yes, sir; infinitely greater. I suppose it has been four or five times greater.

The CHAIRMAN. Can you furnish a statement showing the number of resignations taking place from time to time during the past two or three years?

Mr. NEWTON. I will furnish that information.

The CHAIRMAN. I understood you to say that during your time you never have had in the Patent Office such a situation as you have there now in connection with the lower-grade examiners.

Mr. NEWTON. No, sir; and that is what I am here for. If we had the same condition that we had before the war I do not know whether I would be here this morning; but it is a condition, and not a theory, that interests me now, because things are getting into a serious condition.

Now, as to the Patent Office examiners issuing patents that ought not to be issued, that is another thing that will always happen. I do not want to mislead the committee, but I want you to know the facts, and we will never be able to make a complete search on some patents. For instance, I know of inventions that have been sold to corporations where they would put men on them and keep them on them for months searching to see if the inventions had ever been made before they would buy the patents. Hundreds of thousands of dollars would be involved, and they would keep men for weeks and months, and sometimes, possibly, for six months, engaged in the search. I know of one who did keep men engaged in the search for six months.

Now, we can not possibly put that much time on an application. Sometimes people say, "Why don't you guarantee your patents?" That is absolutely impossible, but it is important that this work be done in a decent way, so that we would not throw out patents without proper examinations. As I have said, we have tried to remedy this situation. As I remarked just now, we wanted to find out why the men remained in the German patent office and did not stay with

us. I never did find out the reason, because their salaries are not much better than ours except in the higher grades. The only reason we could see was this, or this seemed to be the trend of opinion on the subject: The Germans are peculiarly constituted. Rank with the German counts for more than it does in America, and to be connected with the Government is to him a big thing. For instance, one man, in giving me his experience in regard to the German examiners, said that they had a strike on the railroad over there, and the railroad employees were Government employees to some extent. The committee that investigated that strike found out that the men were too poorly paid and could not live on their wages, and that the Government should do something for them. "But," they said, "there is nothing in the treasury, and we will give them certain rank and allow them to wear swords." That was all they wanted. The strike was settled, and there was no further trouble. That, I think, illustrates to some extent why people remain in the German patent office and do not remain in our Patent Office. They remain because of the rank that goes with it. I simply mention this as having some little bearing on the matter of separating the Patent Office from the Interior Department.

Mr. WHEELER. While I have it in mind I would like to ask you about how the fees compare with the running expenses of the office?

Mr. NEWTON. Well, we have about \$8,150,000 to the credit of the Patent Office. That is, we have earned about that much more money than we have spent.

Mr. WHEELER. Then, your fees amount to more than the salaries?

Mr. NEWTON. They amounted to more for many years, but last year, during the war, they were a little bit less than that.

Mr. WHEELER. With the exception of that year the office has been more than self-sustaining?

Mr. NEWTON. Yes, sir. This year the receipts have been enormous so far. Our receipts for June, I think, were probably 25 per cent more than they were last year in the same lot.

How to stop these men from coming into the office and using it as a training school and staying there until they study law, until they complete their law course, because all of the examining corps practically now are graduates in law, and then getting out and going into business, I do not know. We have that situation there now and we have tried to stop it, but we can not stop a man from resigning. We did during the war refuse to accept their resignations because we could not get anybody to fill their places. That was only a war measure and has been withdrawn. We can not stop a man from resigning, and if he comes to the office through the regular civil-service channels and stays there simply to study law and then to get out, I do not know of any way to stop that.

The thing that will stop them to some extent is to increase their salaries, because some have preferred to stay in the Patent Office, and they are very good men, too. But it appeals to a majority of them to get on the outside and do better.

Gentlemen, I do not know what I can say additional to that as regards the examining corps. Something must be done if we are going to keep up the examination system. All the countries now have come to an examination system, and it would be a great and very



serious step backward to go back to the English and French systems of patenting everything that comes into the office, and letting the courts settle all the matters that are now settled in the Patent Office. The English themselves are changing at the present time to the examination system. The Germans have always had it.

There is just one word I wish to say on the matter of the examination system in the Patent Office. It will occur to the minds of the members of the committee: Why would not these things have taken place, why would not these inventions have been made without the patent system? We think of that so much more in the Patent Office than you do that I want to make one or two suggestions to you along that line.

I do not believe the inventions would have been made. They were not made until patent systems began. There was no progress, or not very much progress in inventions until there was a patent system. The English were the first to adopt it, and other countries have started; Switzerland started, and so did Belgium and Holland, on this theory. They said, "We are surrounded by intelligent nations which have patent systems. We will allow our people to copy from them and pay no royalties. Consequently, we do not see any use in having a patent system."

The result was that their industries or their inventions immediately began to lag, and so noticeable was that that those countries have gone back to a patent system.

There is an old art in Switzerland, the watch art, and the Swiss have excelled for years and years in the making of watches. We get more patents from Switzerland on watches than from any other country. But even with the establishment of that art as firmly as it had been, for 100 or 200 years, the watch art languished so that the Swiss became alarmed and they began their patent system. So that we can not do without the patent system in this country, and if we are going to keep ahead of or abreast of the rest of the world we have got to have a patent system in its highest development.

All the other countries are coming to the examination system, so that we have got to have that. And if we have the examination system we ought to do it practically without making too many mistakes, and do it right. We can not do it in that way under the present conditions. We simply can not do it. The men are leaving at such a rate that it makes it impossible for us to do that, and we can not get others to fill their places who are as efficient as the people who are leaving, so that it will be certainly a very serious proposition unless we get relief.

Mr. MACCRATE. Is it possible for people to make application for their patents and make their own searches?

Mr. NEWTON. It is impossible and impractical because we get a great many applications, for instance, from California.

Mr. MACCRATE. I mean to have somebody do that for them, on the outside. When men buy property they have their own searchers—they have their own people who search the titles.

Mr. NEWTON. That is true; they do have that very largely now.

Mr. MACCRATE. We have a great many large title companies who make a business of simply searching titles.

Mr. NEWTON. There is very little similarity between titles and patents. They only have a similarity in a few parts, and you can not compare them because the statutes provide that if a thing has been done anywhere in the world before a man invented it, his patent is no good, and it would require a man to search the records of the patents in every country, if you allowed that.

Mr. WHEELER. There is one matter I would like to get clear in my mind, Mr. Commissioner. I understand that when an examiner first comes in he receives a salary of \$1,500. What is the highest salary of an examiner?

Mr. NEWTON. \$2,740.

The CHAIRMAN. You were speaking awhile ago about countries that have not any patent system of their own and which permit their people to do copying of patents in other countries, and you mentioned several of those countries. How about Japan?

Mr. NEWTON. Japan is now getting in operation one of the best patent systems. They have only had it for 10 or 15 years. We are getting a great many patents from Japan. We get patents from all civilized countries that have patent systems and put them in the Patent Office here and classify them.

The CHAIRMAN. What have the Japanese been doing so far as our patents are concerned? What rights do we have in Japan?

Mr. NEWTON. They will allow us to take out patents there, as we will allow them to take out patents here.

Mr. WHEELER. When was that started?

Mr. NEWTON. About 10 years ago.

The CHAIRMAN. Does that apply to trade-marks as well as patents?

Mr. NEWTON. It applies to trade-marks in a way, but the exact situation I do not know. There has been a great deal of complaint about the infringement of the American trade-marks in Japan. But that comes from a condition which is different from the condition in connection with patents. In Japan a man has no trade-mark until he registers it. In our country the trade-mark depends entirely on its use, on the first use of it. The Japanese can find out what is a valuable American trade-mark, such for instance as that on Prince Albert tobacco. He registers the trade-mark in Japan before the tobacco company registers it, and that registration gives him the right to that trade-mark in Japan. He owns it in Japan, when he does not own it here at all. You could not do that in this country.

That is the same condition as there is in the South American countries, and even in Cuba also. But that is getting away from this bill.

Mr. WHEELER. I want to ask you another question, and if it will embarrass you to answer it, you need not answer it. Would you care to suggest what an examiner should get in the way of salary, or what the clerks should get?

Mr. NEWTON. I can not suggest. I give you the facts, and it is for you to say what they shall get. I can show you what the men getting on the outside when they resign, and I can show you how we can not get them at the present salary. But you gentlemen yourselves must make up your minds as to what they will get.

The CHAIRMAN. You know we are spending \$75,000 on a reclassification commission that probably will make some recommendations to Congress in reference to the salaries of Government employees.

Mr. NEWTON. I do not know what they are going to do.

The CHAIRMAN. I do not know that they are going into the Patent Office situation any more thoroughly than we can.

Mr. NEWTON. I do not know about that; I do not know whether they are going into the situation in the Patent Office particularly or not. But I want to impress upon the committee the fact that we are in that serious situation in the Patent Office that we are losing these men, because you are the people to decide upon this matter. I am going before the Committee on Appropriations when they send for me at the time of the consideration of the estimates for the next appropriation bill, but if I say a word about an increase in salaries they are going to say, "No; we can not increase the salaries; the Committee on Patents fixes your salaries;" and if there is any attempt to increase salaries, the instant anybody in the House raises an objection to that it goes out, and so the Committee on Appropriations say, "We are not going to change it at all."

The CHAIRMAN. That was the suggestion I made, that they have no authority.

Mr. NEWTON. They have no authority to increase salaries, and it is up to this committee to say what the salaries shall be. It is up to the Committee on Patents, which has the authority to fix these salaries, to increase the salaries if you think it proper, because the Committee on Appropriations can not, and will not, do it. They tell me they can not do it.

They were willing to do it the last time. I told them my situation, but they were very frank, and they said they would do it, but they said "the Committee on Patents has fixed the law, fixed the salaries and we can not change your salaries." So much for the examiners.

The clerical force in the Patent Office is in almost as bad a condition as the examiners, because the Patent Office is an old office and the salaries were fixed a good many years ago. We have more clerks receiving \$720 a year, \$60 a month, a larger proportion of clerks getting that salary than any other bureau under the Government. We are trying to get along down there with the copy pullers we can get at \$40 a month, but you can imagine what kind of help I can get at \$40 a month to pull copies. We get school boys; we go out and pick those boys up off the street. They come in there and they think that if they can get into a Government office they have a snap, and as soon as they find out that the work is tedious they want to quit. Out of 500 clerks in the office this year 250 of them have resigned, and largely in the lower grades, and we have had to keep filling them up as fast as we could get them, and the result is that we have a serious condition in this respect. Manufacturers now are going back from their war production to peace production and they want to know how they stand as to patents. They want to see patents as a whole class. So I am getting a great many orders for all classes of patents.

A man starts making a machine, and he wants to know, in the first place, what the best improvement of it is. In the second place, he wants to know whether he is infringing any patent, and so he sends for all the patents of that class. As the situation now stands we simply can not furnish those. Those men put up very pitiful tales to me. They say their work is standing still and that we ought to pull the copies and send them to them, but we can not do it. We have a great many orders for copies which we have not been able to



fill. The oldest one of them is in March. Ordinarily, heretofore, we have kept up to date, so that you will see how I am situated now, with this situation confronting me.

That has been brought about by the fact that before the war we used to receive from 50,000 to 60,000 orders for copies a week, while now we are receiving from 75,000 to 85,000 or 95,000 copies a week, with fewer people to make them. The number of orders for copies has so increased that it is almost double what it was before the war.

I am afraid, Mr. Chairman and gentlemen, you will get the idea from my remarks that I am a sore head, and that I am a beggar. When I went to the Patent Office, rather, when I took up the duties of Commissioner of Patents, it was with the idea that, being so well acquainted with the work myself, because I had filled every position in the office, almost, at the time I was made commissioner—I went into that office with the idea that I could get along with a fewer number of clerks than there had been in the office before, by proper planning of the work. For the first year we did reduce the number of applications pending from about 32,000 to about 14,000, which was the number pending last year.

But now, in spite of all my insistence that the work be kept up to date, we get a weekly report from every examining division stating how many cases they have received during the week and how many they have acted on, and if they have fallen down or fallen behind I get after them to find out why they have not kept up with the work, or why they can not keep up with the work, because if we ever get behind once it is an awful job to catch up. But even with all this insistence we are falling behind. We have fallen from 14,000 applications for patents pending this year to 18,000, and we are getting rapidly behind every week.

Mr. WHEELER. When a person makes an application for a patent now, in your opinion, how long would it be before the application could be reported on or the patent be issued under present conditions?

Mr. NEWTON. We have 45 divisions in the Patent Office examining different classes of applications. There is one division that will examine applications for patents on electrical machines, another division for the examination of applications for patents on gasoline manufactures, or manufactures of gas, and another division will pass applications for patents on other kinds of machines. So we have 45 of those divisions covering all of the art. Some of those divisions are within a month of being up to date. Some of them are back as far as seven months, so that they run from about one or two months behind to about seven months behind.

Mr. WHEELER. That is before the applications receive their first action?

Mr. NEWTON. Yes?

The CHAIRMAN. Mr. Commissioner, do you know whether these bills have been referred to the Secretary of the Interior or not, and whether they have been approved by him?

Mr. NEWTON. I do not. This bill did not originate with me.

The CHAIRMAN. I understand that. Is it the general practice to refer bills that affect the Patent Office to the Secretary of the Interior, and does he ask that they be referred to him?

Mr. NEWTON. I always refer my bills to him.

The CHAIRMAN. What has been your experience with the Secretary of the Interior in the matter of approving or disapproving bills to increase the force and the salaries of the employees in the Patent Office?

Mr. NEWTON. Mr. Chairman, that is a question which, when it is put to me, I will say that I do not know what has been the experience of other commissioners, but Mr. Lane, so far as I am concerned, has never disapproved anything. He has acquiesced in any suggestion I have made to him, without any exception.

The CHAIRMAN. Do you think that any bill providing for an increase in the force and an increase in salaries that you approve would also be approved by the Secretary of the Interior?

Mr. NEWTON. I know it would.

The CHAIRMAN. Do you approve this bill for the increase of the force of employees in the Patent Office and increase in the salaries?

Mr. NEWTON. I could not say that, because I did not go over the bill very carefully. I thought it had better come from the outside than from me. The people on the outside know the situation as well as I do in that respect.

The CHAIRMAN. I do not want you to answer this question if you think it would be embarrassing. But I want to ask you what advantage can you see in making an independent bureau of the Patent Office; what distinct advantage?

Mr. NEWTON. I do not believe I can throw any light on that question in addition to what Mr. Ewing and the other men who have spoken to the committee have said.

The CHAIRMAN. Can you see any distinct advantage to the inventor and to industry by making a separate bureau of the Patent Office?

Mr. NEWTON. None; except what has been pointed out.

The CHAIRMAN. You are going to give us some information regarding the revenue of the Patent Office and the surplus?

Mr. NEWTON. Yes, sir.

The CHAIRMAN. It has been stated that if increases were made in the fees, that would add \$200,000 a year to the income of the office. Have you given the fee section of these bills any consideration as to whether there should be any increase of the fees?

Mr. NEWTON. No; I have not. I do not think they should be increased.

The CHAIRMAN. You do not believe the present fees should be increased?

Mr. NEWTON. No, sir.

The CHAIRMAN. If there was any increase in the expenditures or the cost of upkeep of the Patent Office, would you still have that opinion?

Mr. NEWTON. I would not say that. If the expenses of the Patent Office were more than the receipts, it is possible those fees ought to be changed. I do not believe the expenses will be more than the receipts, from the prospects now.

The CHAIRMAN. One of the bills before us carries with it, as I understand it, a provision of the old law covering appropriations for salaries of \$1,311,010. That was the amount to December 1, 1912. I do not know whether that is up to date or not, but it is the only one we have. Can you tell us whether that is about right or not?

Mr. NEWTON. That is about right. Our big increase is not so much in salaries. We pay the Government Printing Office about \$500,000 a year. The salaries do not make the big expense of the Patent Office.

The CHAIRMAN. The provisions of the bill for increasing the force and increasing the salaries would increase that amount, it is estimated, \$1,062,000.

Mr. NEWTON. Yes; \$1,062,000.

The CHAIRMAN. That is, the amount would be increased from \$1,311,010 to \$2,273,660, just for salaries to take care of the increased force, without giving any consideration at all to the lowest paid employees in your office, or without giving very much consideration to that proposition; and certainly more consideration ought to be given to the low-paid employees, the present condition among them, as you say, rather interfering with the efficiency of your office. If the full amount is allowed and first consideration given to the salaries of the low-paid employees it would increase the amount for salaries to practically double what it is now.

Mr. NEWTON. I can not tell what the receipts are going to be in the future, but if the receipts continue to increase in the future as they have in the last two or three months since the war ended, I believe the receipts of the office would almost take care of \$1,000,000 additional.

The CHAIRMAN. Do you not believe you have had an abnormal number of applications due to this fact? There was practically no reason for a man who had a new invention having it patented during the war, unless it was essential for the prosecution of the war, because he could not manufacture under it, and still his time would be running on. Do you not believe there has been an abnormal number of applications that have been held back on that account?

Mr. NEWTON. I do not think so. I think the increase in the number of patents has been due to the increase in the business of the country, and to the fact that these men are going into the industries. When a man changes from manufacturing guns and explosives and goes into something else, he immediately begins to take out patents.

The CHAIRMAN. Still there is an effort being made in this country to create a sentiment in favor of the extension of the life of the patents that were really suspended during the war?

Mr. NEWTON. Yes.

The CHAIRMAN. If a man had a patent and his right to manufacture was denied during the war, it is not likely that man would care to get a patent on that article when he knew his time was running on and his right to manufacture would be denied him?

Mr. NEWTON. That brings up such a complicated question that I do not think there is any possibility of that having any serious effect.

The CHAIRMAN. I am just reciting the fact that you have had an abnormal number of applications since the armistice.

Mr. NEWTON. I do not believe so. I think we have had about what we expected. I believe they are going to keep on, as long as business is in its present condition. The number of applications received in the Patent Office is a very good indication of business conditions. It is remarkable to notice the close connection between the business conditions of the country and the number of applications received in the Patent Office. If you will present those two things by means of



curves you will find that the curve representing the business conditions and the curve representing the number of applications received in the Patent Office are almost parallel with one another. In prosperous years we get a tremendous number of applications for patents. In 1894, when everybody was suffering from serious business depression, there was a very small number of applications for patents received in the Patent Office.

Mr. MACCRATE. In following out those two curves you referred to, does the curve representing the number of applications for patents go up first or does the curve representing favorable business conditions go up first?

Mr. NEWTON. No; they go along together, they keep pretty close together.

The CHAIRMAN. Do you believe the Patent Office ought to pay for itself?

Mr. NEWTON. I rather think it ought to pay for itself. I think that was the intention in fixing the fees, originally. There are only two bureaus that do that in the Government service, and those are the Patent Office and the Copyright Office. I believe they try to keep the receipts down to what the expenses are.

The CHAIRMAN. You are mistaken when you say the Patent Office and the Copyright Office are the only two bureaus that have fees. The Immigration Service and a number of others have always shown a tremendous surplus.

Mr. NEWTON. Of course, there are some bureaus that were not intended to have any excess of fees over expenses, but I think the Patent Office ought to pay expenses, although I do not think it is necessary. I think the Government could well afford to encourage inventors, as they do other branches of industry. Even though the fees of the Patent Office were not sufficient to pay the expenses of the office, I do not think that should be taken into consideration.

The CHAIRMAN. Whenever you talk about any increase of expenditures there is always a hard road for you to travel, especially at this particular time. I think there would be more justification for encouraging industry and invention than in doing some other things, especially in connection with one particular branch of the mail service, where we have a deficit, but that is beside the question.

We have to give consideration in drafting bills to the question of the amount of money it takes out of the Treasury, and the possibility of getting it through the two Houses of Congress.

Mr. NEWTON. I realize fully, Mr. Chairman, what you are up against.

The CHAIRMAN. We have got to look at the practical side of the matter when we present bills to the House.

Mr. NEWTON. As I told you, I can not tell whether this condition is going on indefinitely or not. In June, 1918, we received 4,699 applications, and in June, 1919, we received 6,461, and we had only the same number of employees, and possibly they were less efficient. That is the point I want to emphasize before this committee at the present time.

Mr. Chairman, I think that is all I have to say. I hope I have impressed the committee with the fact that this committee must do something in the way of relieving the Patent Office from the present situation if we are going to keep up a patent-examination system,

because it can not be done with the present force under present conditions.

The CHAIRMAN. Mr. Commissioner, reference has frequently been made to the fact that with an increased force there would be less likelihood of mistakes being made because of the fact that a larger and more efficient force would carry on more extensive searches. Would there be any way in which there could be graduated fees for the amount of work involved in those searches, by which a system could be worked out so that there could be a more complete search, if it was desired?

Mr. NEWTON. I hardly believe that would be possible because that would give the big corporations and the men who are able to pay to have the searches made an advantage. They would take up the entire time of the corps and not give the other people any chance at all.

The CHAIRMAN. I had in mind that that would be a means for increasing the receipts of the office. But, of course, you have not any revolving fund and therefore you could not do it in that way. If the fund was a revolving fund that money could be used for that particular purpose, but I can see the trouble you would have there.

Mr. NEWTON. Then there are some applications that require more search than others, and it has been proposed that we charge according to the number of claims. Some applications have as many as 200 claims, and others will have only one.

The CHAIRMAN. It would work against the poor inventor too?

Mr. NEWTON. Yes. It has been held, and consistently so—it has never been tried, but everybody seems to have come to the conclusion that it is impractical, to charge different rates for different kinds of applications.

There is another matter that I wish to submit for the record, and that is this compilation we have made of the list of salaries paid in our Patent Office as compared with the salaries paid in the English Patent Office.

(The matter referred to is as follows:)

*Salaries paid officials and employees occupying corresponding positions in United States and Great Britain Patent Offices, 1912.*

UNITED STATES.		GREAT BRITAIN.	
Position.	Salary	Position.	Salary.
Commissioner.....	\$5,000	Comptroller General.....	\$7,305
Chief clerk.....	3,000	Chief clerk.....	4,866
Librarian.....	2,000	Librarian.....	2,922
Chief publications division.....	2,000	Superintendent sale branch and warehouse.....	2,435
Chief assignment division.....	2,000	Principal public office and register branch.....	3,652
Chief issue and Gazette division.....	2,000	Principal abridgments and printing branch.....	3,896
Examiner trade-marks and designs.....	2,700	Registrar of designs and trade-marks.....	4,866
First assistant examiner trade-marks and designs.....	2,400	Principal of designs and trade-marks.....	4,140
Primary examiners (43).....	2,700	Supervising examiners (4).....	3,896
First assistant examiners (58).....	2,400	Examiners (19).....	3,409
Second assistant examiners (55).....	2,100	Examiners (11).....	2,800-3,287
Third assistant examiners (78).....	1,800	Deputy examiners (30).....	2,045-2,679
Fourth assistant examiners (110).....	1,500	Assistant examiners (196).....	730-1,534
Clerks:		Clerks:	
Class 4.....	1,800	Upper division.....	1,021-2,581
Class 3.....	1,600	Second division.....	516-1,704
Class 2.....	1,400		
Class 1.....	1,200		

Salaries paid in British office taken from table in report of President's Economy and Efficiency Commission of 1912. English money terms changed to read in United States terms.

The following increase in salary were made by the British Patent Office in 1917, as compared with salaries paid in 1912:

Comptroller general	Same.
Chief clerk	Same.
Librarian	\$241. 00
Superintendent of sale branch	<sup>1</sup> 65. 00
Chief examiner	<sup>2</sup> 5, 839. 80
Register of designs and trade-marks	487. 00
Supervising examiners	<sup>3</sup> 380. 00
Senior examiners (16); examiners (19)	<sup>4</sup> 613. 00
Examiner (38); examiners (11)	<sup>1</sup> 443. 00
Deputy examiners (3)	<sup>5</sup> 283. 00
Assistant examiners (190)	<sup>6</sup> 180. 00
Higher division clerks (6); upper division clerks (7)	<sup>7</sup> 580. 00
Second division clerks (7)	<sup>8</sup> 170. 00

Mr. MACCRATE. Does the English Patent Office keep its men longer than we keep our men in the American Patent Office?

Mr. NEWTON. I think they do; but they pay a good deal more than we do.

Mr. MACCRATE. Is that true all through their civil service, especially in the high-grade positions, that the men stay longer in the British service than they do in the American service?

Mr. NEWTON. That I do not know. The head of their office is under the civil service. They have not changed the head of their patent office for 15 or 20 years.

Mr. MACCRATE. What branch of the English Government does the patent office come under? Does it exist as a separate department, or is it under one of the ministers?

Mr. NEWTON. It is under one of the ministers. It is an independent office in Germany.

I would like to leave with the committee a statement showing the amount received by draftsmen. Our draftsmen are very poorly paid, from \$1,000 to \$1,400. We can not get draftsmen for that amount any more. So far as the salaries of draftsmen are concerned, out of about 10 different departments here the salaries we pay them are the lowest. We are at the bottom of the list, so far as the salaries we pay draftsmen are concerned. I do not know why these salaries are so much poorer in the Patent Office than in other departments, but it is a fact, and it is creating havoc with us now.

(The matter referred to is as follows:)

This chart shows by comparison that the average of salaries paid to the draftsmen of the other departments is greater in every case than those paid to the draftsmen of the Patent Office.

Coast and Geodetic Survey	\$1, 709
Office of Supervising Architect, Treasury Department	1, 692
Quartermaster General's office, War Department	1, 600
Bureau of Ordnance, Docks, and Yards, Navy Department	1, 600
Fourth Assistant Postmaster General	1, 445

<sup>1</sup> Reduction in salary.

<sup>2</sup> A new position.

<sup>3</sup> Decrease of 1 in number.

<sup>4</sup> Decrease of 3 in number.

<sup>5</sup> Decrease of 27 in number.

<sup>6</sup> Decrease of 6 in number.

<sup>7</sup> Indicates average increase.

<sup>8</sup> Decrease of 8 in number.



Lighthouse Bureau, Department of Commerce	\$1,433
Division of Publications, Agricultural Department	1,346
Chief of Ordnance, War Department	1,344
Chief of Staff, Army War College	1,311
Indian Office	1,300
Forestry	1,257
Hydrographic Office, Navy Department	1,250
Patent Office	1,085

I would also like to leave with the committee a chart showing the salaries and the proportion of higher grade salaries in the various other bureaus as compared with those in the Patent Office.

(The chart referred to is as follows:)

Provided, 1919:

1 financial clerk	\$2,250
1 librarian	2,000
6 chiefs of division	2,000
3 assistant chiefs of division	1,800
1 translator	1,800
1 private secretary	1,800
9 clerks, class 4	1,800
9 clerks, class 3	1,600
17 clerks, class 2	1,400
135 clerks, class 1	1,200
91 clerks	1,000
3 draftsmen	1,200
4 draftsmen	1,000
90 copyists	900
40 copyists	720
3 messengers	840
33 assistant messengers	720
13 laborers	600
45 examiners' aids	600
24 copy pullers	480

Proposed:

1 financial clerk	2,500
1 librarian	2,700
8 chiefs of divisions	2,500
8 assistant chiefs of division	2,100
1 translator	2,000
1 assistant translator	1,600
1 private secretary	2,000
22 clerks, class 4	1,800
33 clerks, class 3	1,600
100 clerks, class 2	1,400
125 clerks, class 1	1,200
100 clerks	1,000
1 draftsman	1,800
3 draftsmen	1,600
3 draftsmen	1,400
40 copyists	900
3 messengers	840
33 assistant messengers	720
13 laborers	660
45 examiners' aids	600
24 copy pullers	600

*Diagrams contrasting the number of clerks of classes 1, 2, 3, and 4 at \$1,200, \$1,400, \$1,600, and \$1,800, respectively, in the Patent Office, with the average number of such clerks in 12 other offices designated.*

## A COMPOSITE OFFICE.

Clerks, class 4.....	31
Clerks, class 3.....	41
Clerks, class 2.....	74
Clerks, class 1.....	110

	\$1,200	\$1,400	\$1,600	\$1,800
Indian Office.....	65	38	31	20
Pension Office.....	320	247	83	93
Land Office.....	89	83	57	27
Internal Revenue.....	43	44	31	35
Civil Service.....	52	39	28	6
Bureau of Foreign and Domestic Commerce.....	18	18	6	12

## PATENT OFFICE.

Clerks, class 4.....	9
Clerks, class 3.....	9
Clerks, class 2.....	17
Clerks, class 1.....	135

	\$1,200	\$1,400	\$1,600	\$1,800
Postmaster General.....	276	208	134	88
Census Office.....	285	65	30	20
Office of the Attorney General.....	20	10	11	8
Bureau of Navigation.....	11	8	5	5
Copyright Office.....	10	8	7	4
Adjutant General's Office.....	131	116	74	58

Total.....	\$1,200 1,320	\$1,400 884	\$1,600 497	\$1,800 376
A composite office.....	110	74	41	31
Patent Office.....	135	17	9	9

Mr. MACCRATE. Have you any figures, Mr. Commissioner, with reference to the number of employees who have left the Patent Office and gone to the other branches of the Government here?

Mr. NEWTON. No; I have not; but I could get them. Nearly all of our resignations during the last two years have been resignations of people who have resigned to go to other departments.

The CHAIRMAN. Notwithstanding the fact that there was supposed to be a ban on that, a great many of your men did go to other departments, to independent war bureaus, at increased salaries?

Mr. NEWTON. Yes. They would even resign and make it known afterwards that they had gone there. You could not prevent that.

My attention is called to the fact that there have been amendments proposed to H. R. 5011. I agree with all the proposals they make there with this exception, that there is no use in publishing those notices in the Gazette that are sent by the clerks of the courts relating to the litigation of any patent case. The Gazette is no place for that. If anyone wants to look it up, the natural place would be to go to the files of the application or the files of the patent, and all that is necessary is to put that notice from the clerk of the court into the files of the application and not publish it in the Gazette.

There was also a change which I suggested, or that has been presented to you, in reference to the fees. We have a good many cases

where there has been a fee of \$15 paid as an initial fee. It does not do to let those cases go to publication with \$15 as a final fee. They ought to be charged \$20. But in the case of applications where the initial fee is \$20, then the final fee should be made \$15; and those are the only cases where the final fee should be made that amount.

Mr. PRINDLE. Mr. Chairman, there are just one or two points I would like to call to the attention of the committee.

The CHAIRMAN. It is now 10 minutes after 12 o'clock, and the members of the committee desire to be on the floor of the House as soon as they can; and I would suggest that you may extend your remarks in the record covering the points you have in mind by a letter.

Mr. PRINDLE. I will be glad to do that.

The CHAIRMAN. If there is no objection, the committee will stand adjourned until next Thursday morning at half past 10 o'clock.

(Thereupon the committee adjourned to meet Thursday, July 17, 1919, at 10.30 o'clock a. m.)

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COMMITTEE ON PATENTS,  
HOUSE OF REPRESENTATIVES,  
*Thursday, July 17, 1919.*

The committee met at 10.30 o'clock a. m., Hon. John I. Nolan (chairman) presiding.

The CHAIRMAN. The committee will come to order. You may proceed, Mr. Robertson. Give your full name and whom you represent.

**STATEMENT OF MR. THOMAS E. ROBERTSON, 605 SEVENTH STREET NW., WASHINGTON, D. C., PRESIDENT OF THE AMERICAN PATENT LAW ASSOCIATION.**

Mr. ROBERTSON. May it please the committee: The American Patent Law Association is composed of patent lawyers from all parts of the country, from Portland, Me., to San Francisco, Calif. This association does not seek or oppose legislation unless it first submits the matters about which legislation is pending to the various members of the association all over the country. In other words, it gets a consensus of opinion on the part of the bar by a referendum vote.

The court of patent appeals bill and the bill for increasing salaries bring up two questions that have been before the association for many years, and on those two questions the association has taken a most decided stand affirmatively.

The question of forming an independent bureau for the Patent Office was not brought before the association by Mr. Prindle in behalf of the National Research Council until the 26th of June, just a few days before your hearings began, and hence the American Patent Law Association has not been able to get a consensus of opinion of its members, and my remarks therefore on that bill will be made in behalf of myself personally and not for the association; but I am speaking for the association in connection with the proposed court of patent appeals. Now, your committee has asked some very important questions with respect to that court, and the questions seem to indicate that your committee is ready to follow the unanimous—or what seems to be the unanimous—opinion of the bar and grant us a court of patent appeals, but you are somewhat at sea as to whether the



court shall have what I might call a "shifting personnel," bringing the judges here from a distance from their circuits and returning them, or what might be called a "permanent personnel," having judges appointed the same as the Supreme Court judges are. In distinguishing these two I shall therefore refer to one as the shifting-personnel bill and to the other as the permanent personnel bill.

While you have had brought to your attention the advantages, the necessity, the real need for a court of appeals, if you will be indulgent I should like to read just one paragraph of a decision of one of the district courts, the eastern district of Pennsylvania. I am reading from the Federal Reporter, volume 117, page 845, in the case of *Hanifen et al. v. Armitage et al.*, where the court was considering a United States patent. The court said:

This patent has been the subject of marked vicissitude. It was at first sustained by Judge Dallas in this court in *Hanifen v. E. H. Godshalk Co.* (C. C., 78 Fed., 811), but upon a rehearing, on account of certain expert evidence by which he felt himself controlled, he decided against it. On appeal, however, he was reversed and the patent upheld, although the court of appeals was not unanimous, Judge Butler dissenting from the views of Judge Shiras and Judge Acheson, who constituted the majority. (28 C. C. A., 507; 84 Fed., 849.) It came up again before Judge Gray in *Hanifen v. Lupton* (C. C., 95 Fed., 465), where the validity of the patent was conceded, the suit being defended on other grounds. It next appeared in the second circuit and was sustained by Judge Townsend in a well-considered opinion (*Hanifen v. Price* (C. C., 96 Fed., 435); but he in turn was reversed by the court of appeals of that circuit in an opinion by Judge Shipman, and the patent declared invalid. (42 C. C. A., 484; 102 Fed., 509.) On account of these conflicting decisions in the two circuits, the Supreme Court allowed a certiorari in the latter case, and it was supposed that the matter would be thus put at rest. But again there was a serious difference of views, which resulted in an affirmance by an equally divided court. Such an affirmation establishes no precedent or principle (7 Am. & Eng. Enc. Prac., p. 44), and, so far as this court is concerned, the decision of the court of appeals of this circuit sustaining the patent therefor remains.

This is a picture painted by a United States district court showing the need of a patent court of appeals. If we had had a patent court of appeals in that case, the first appeal would have decided all questions that were brought before it once and for all. I think that has been admitted by all. We have had numbers of cases where this same conflict has arisen between the different circuit courts of appeal, and they have been referred to; but I wish now to call attention to one more, the last case before the Supreme Court. This related to electric washing machines, which are of vast importance, used all over the country to help out in the domestic problems of to-day. The complainant in that case had two washing machines, operated electrically, connected up in the Supreme Court chamber. A most elaborate hearing was given, but this was on appeal after a series of hearings, of which I shall now tell you.

Suit was first brought against the first infringer in the Middle West, and the district court held the patent valid and infringed. Favorable decision No. 1.

Another infringement was found. This infringer was sued, resulting in favorable decision No. 2.

The defendant appealed to the court of appeals of that circuit, which affirmed the lower court. Favorable decision No. 3.

Parenthetically, I may say here that if we had had one central court of patent appeals, the validity of that patent would have been settled for the whole country.

There was another infringer in another circuit. He was sued, and that district court, after hearing all the evidence, held the patent infringed. Favorable decision No. 4. The defendant took an appeal and the circuit court of appeals of his circuit, upon substantially the same evidence, held the patent invalid, after four favorable decisions. Hence it was necessary to take that case to the Supreme Court on a writ of certiorari, which was granted, and the case was thereupon heard by the Supreme Court.

Now, as all agree, if we had had a common court of appeals for the whole country, whose jurisdiction would be coextensive with the geographical limits of the country, the first appeal would have settled the validity of this patent for the whole country.

Mr. WHEELER. The Supreme Court probably would take a year at least in most of these cases before they would render their decision, would they not?

Mr. ROBERTSON. I think that is putting it very mildly—and I am not charging anything against the Supreme Court except the overcrowded condition of its docket; but in that connection let me say that unless the Supreme Court thinks there is a proper case for review, unless we make out a most probable case, they won't even issue a writ of certiorari. It is not a matter of right, and there are very few writs of certiorari granted.

Now, Mr. Fish, of Boston, described by you—and properly described—as the dean of the patent bar—probably the foremost patent lawyer in the world—has been advocating, as he told you, this patent court of appeals for 20 years or thereabouts. It is not a new thing; it has been pending before Congress in two or three different forms. We had what was known as the American Bar Association bill, introduced in the House of Representatives, H. R. 9296. That bill was substantially the same as the bill now before the committee. Mr. Chairman, I have a report relating to this bill and will file a copy of it if you wish.

The CHAIRMAN. I wish you would; yes.

Mr. ROBERTSON. That bill is substantially the same as the bill before you to-day, with the exception of one or two very minor particulars which need no consideration. At that time numerous members of the bar took the very same position that some of the members of your committee have taken, to wit, that it would not be right to bring judges to Washington and leave vacancies in the district and circuit courts to be filled by other judges, and then, when the judge is returned after six years, to possibly have two judges in the same district at the same time. All those objections were raised, with the result that at the same time—I am speaking now of 1903—a New York lawyer, Thomas J. Johnson, Esq., prepared another bill, which was then known as H. R. 769.

The CHAIRMAN. Have you got a copy of that bill?

Mr. ROBERTSON. I haven't a copy of the bill, but I have a copy of the proceedings, which will explain the whole matter, if you would like to have it.

That bill provided a permanent personnel appointed by the President, subject to confirmation by the Senate.

Now, I wish to again assert how carefully the Patent Law Association goes into these matters, and while we have in our records only

three copies of this report, if you would like to have one of them, I can leave one with the committee.

The CHAIRMAN. Yes; we would like to have it.

Mr. ROBERTSON. It goes into this matter very carefully from the standpoint you yourself have taken.

The CHAIRMAN. We would like to have a copy of that report for the record, inasmuch as it goes into the history of these bills as they have been introduced and considered.

Mr. ROBERTSON. In that connection, if you please, Mr. Chairman, in 1904 our committee delegated for this purpose took up these two bills—the shifting-personnel bill and the permanent-personnel bill—and they printed a pamphlet that went to over 400 selected correspondents all over the country, including its own members and other members of the bar, and in this pamphlet they gave every reason they could find for the bar association bill, and they also gave every disadvantage they could think of. They also did the same thing for the Johnston bill—the permanent-personnel bill. They received from these 400 correspondents 128 replies, giving detailed commendation and criticism. Of these, 74 were for the permanent personnel and 54 for the shifting. The result was that the committee digested those replies and made a report to the association, giving all the commendations and all the adverse criticisms of both plans. Then the association took a vote upon it and its committee was directed to prepare a report to the then Patent Committees of the House and Senate. In this report you will find six whole pages in parallel column form setting forth the advantages claimed for the shifting-personnel bill and the objections urged against it. Then you will find six whole pages of the advantages and objections urged for and against the Johnston bill—the permanent-personnel bill.

This report shows that the association then held this view:

The patent profession, manufacturers, and the public, need and desire a court of final jurisdiction in patent causes.

The profession is practically a unit in asking for such a court, and the very general expression of sentiment is that all differences of opinion as to the best plan of organization should be subordinated to the vital object of securing a single court of final jurisdiction.

Now, what was the result of that report? The patent committee found the American Bar Association, the greatest associaiton of its kind in the world, asking for one kind of court; they found a comparatively smaller organization, the Patent Law Association, asking for a different kind of court. But both were powerful; so powerful that Congress said, "Well, until you gentlemen of the patent bar can settle your differences, we can not give you anything." There the matter hung for several years, until finally a committee of the American Bar Association asked our association for a conference. Instead of having a conference we called a meeting of all the members of our association, and at that meeting we invited the committee of the American Bar Association to be present and gave them the floor. Mr. Fish, Mr. Wetmore, Judge Taylor, and others formed the committee. Mr. Fish headed that committee and through the eloquent presentaion of his case—you have heard Mr. Fish and you know how he can state his points—and through the fact that he and his committee urged us to get together so that we could present a united front for a patent court of appeals, our association of patent



lawyers, patent solicitors, and patent experts gave way and adopted the views of the American Bar Association and voted that, notwithstanding our own prejudices, if you want to call them such, in favor of the permanent personnel plan, we would put those aside and all fight for the common bill, the bill with the shifting personnel, such as you have before you to-day.

Therefore, Mr. Chairman, I am here in behalf of the American Patent Law Association to urge the passage of the bill having the shifting personnel. We urge this because we endeavored to get together with the American Bar Association so as to have the needed relief that the country was crying for; that one patent court of appeals may be established. But in saying that, and while I can not bring that before you with too great emphasis, I want to present the other view, the view we had in 1904, which is set forth on page 3 of this report, as follows:

The need is great and pressing. Any constitutionally created court of patent appeals, having final jurisdiction for the entire country, will be welcomed. Details are of wholly secondary importance.

So, Mr. Chairman, I appear before you to-day in behalf of the American Patent Law Association, asking for a patent court of appeals, with a shifting personnel if possible, but if in the wisdom of your committee you find that you can not give us the shifting personnel, but would be able to give us a court with a permanent personnel, we ask for any court of patent appeals that can be constitutionally created.

Permit me to close my remarks on the patent court bill by quoting from the late Judge R. S. Taylor of the American Bar Association committee, who, in speaking in 1909 (60th Cong. H. R. 21455) on a bill practically identical with the one now before you, said:

The bill as it now stands has the indorsement not only of the American Bar Association, whose membership have of recent years taken great interest in it, but also of the Washington Patent Law Association and of the Patent Law Association of Chicago and of the Bar Association of New York, as well as the approval of a very large number of Federal judges and other lawyers.

The CHAIRMAN. Without objection the report referred to will be printed.

#### THE PROPOSED COURT OF PATENT APPEALS—RESULTS OF INQUIRIES BY AND SUGGESTIONS OF PATENT LAW ASSOCIATION OF WASHINGTON, D. C.

February, 1904.

[Bar association plan, H. R. 9296; S. 2954. Johnston plan, H. R. 10769; S. 2632.]

#### TO THE COMMITTEES OF CONGRESS ON PATENTS.

The Patent Law Association, of Washington, with a view to aiding as far as possible in the ascertainment of the sentiment of the profession regarding the establishment of a court of patent appeals, and the lines upon which such a court may best be founded, has made diligent and systematic inquiry, and respectfully presents herewith in convenient form for reference, the results of its investigations as embodied in communications received.

#### MODE OF INQUIRY.

That the data following may be properly valued, it should be stated that two bills have been introduced in both branches of Congress, which may be conveniently designated as (1) the bar-association bill and (2) the Johns on bill.

Both of these bills have been printed in full by this association, together with such arguments for and against them as had been made known to it, and these documents were sent out to about 400 correspondents, in all parts of the country, and some few abroad, all selected because of their standing and familiarity with patent practice.

Care was taken to express no preference for either plan over the other, or over any different bill that might be prepared. The association desired information upon which to base discussion and action.

One hundred and twenty-eight responses have been received up to this time—and others are expected—containing commendations and criticisms of features of both the bills referred to, many of which are as to features of secondary or minor importance.

The one radical distinction between the two plans above referred to is that the bar-association bill provides for but one new appointment, a president judge, and proposes that the Chief Justice of the United States shall designate six of the present circuit court judges as associate judges, each to serve for a specified term of years, then to return to the circuit; whereas the Johnston plan contemplates the permanent appointment of five judges, from all available sources, bench or bar or both.

The bar-association plan contemplates a first appointment of two judges for six years, two for four years, and two for two years, so that ultimately two judges shall retire from the court and two new ones take their places every two years, each appointee thereafter to serve six years.

For convenience, the bar-association plan may be referred to as one for a changing court, and the Johnston plan as one for a permanent court.

It is believed desirable to take up the subject under separate heads, so that reference may be readily made to each.

Except as to the first topic, the need of such a court, the two bills will be considered separately, the arguments for or advantages of each under the given title being first given and then the objections or criticisms. It is not improbable that in view of the diverse views expressed as to features of both bills, it will prove expedient or necessary to discard both and substitute a simple bill, creating a court of patent appeals, and vesting in it the jurisdiction exercised by the Supreme Court of the United States in patent causes, prior to creation of the Circuit Court of Appeals, and in addition, the power to review orders of the courts below relating to injunctions. The circuit courts of appeals have appellate jurisdiction as to injunctions only in those cases in which they exercise final jurisdiction.

This, in substance, is the conclusion and recommendation reached by the Patent Law Association, of Washington, as a result of careful consideration and discussion of the whole subject, with the various views of others before it.

#### NEED OF PROPOSED COURT.

One fact stands out prominently and unmistakably throughout all the correspondence, investigation, and discussion, viz:

The patent profession, manufacturers, and the public need and desire a court of final jurisdiction in patent causes.

The profession is practically a unit in asking for such a court, and the very general expression of sentiment is that all differences of opinion as to the best plan of organization should be subordinated to the vital object of securing a single court of final jurisdiction.

The reasons why such a court is urgently needed are as follows:

The manufacturing industries of the country are great sources of wealth. Almost all of them are based upon patents in whole or in part.

Letters patent are operative throughout the whole domain of the United States. They are in force but 17 years, and oftentimes a shorter term.

Final jurisdiction is now vested in nine circuit courts of appeals. In those cases tried in the first instance in the District of Columbia the Supreme Court of the United States exercises final jurisdiction, but not in cases arising elsewhere. There are thus 10 distinct courts, each exercising final jurisdiction in a limited section of the United States, as to one and the same patent. Quite a number of instances can be cited of patents held good by the circuit court of appeals of one circuit and held void by another; or held infringed in one circuit and not infringed in another, the facts in both instances being the same or substantially so.

A striking example of this is presented in the case of *Hanifen et al. v. Armitage et al.* (117 Fed. Rep., 485).

The court, Archibald J., in the opening of its opinion said :

"This patent has been the subject of marked vicissitude. It was at first sustained by Judge Dallas in this court in *Hanifen v. E. H. Godshalk Co.* (C. C., 78 Fed., 811), but upon a rehearing, on account of certain expert evidence, by which he felt himself controlled, he decided against it. On appeal, however, he was reversed and the patent upheld although the court of appeals was not unanimous, Judge Butler dissenting from the views of Judge Shiras and Judge Acheson, who constituted the majority (28 C. C. A., 507; 84 Fed., 649). It came up again before Judge Gray in *Hanifen v. Lupton* (C. C., 95 Fed., 465), where the validity of the patent was conceded, the suit being defended on other grounds. It next appeared in the second circuit, and was sustained by Judge Townsend in a well-considered opinion (*Hanifen v. Price* (C. C., 96 Fed., 435) ; but he, in turn, was reversed by the court of appeals of that circuit in an opinion by Judge Shipman, and the patent declared invalid. (42 C. C. A., 484; 102 Fed., 509.) On account of these conflicting decisions in the two circuits the Supreme Court allowed a certiorari in the latter case, and it was supposed that the matter would be thus put at rest. But again there was a serious difference of views, which resulted in an affirmance by an equally divided court."

The question of comity between the circuit courts of appeals has been widely discussed and the practice has greatly varied. The Supreme Court of the United States, however, in the case of *Mast Foss & Co. v. Stover Manufacturing Co.* (177 U. S., 485; L. Ed. Bk. 20, p. 708), declared that the rule of comity should not be carried so far as to prevent independent investigation of each case by the different courts of appeals, since which time little regard has been paid to comity.

Under existing conditions a car brake is alternately in lawful use and in unlawful use as it passes out of one circuit and into another.

A tanning process patent is valid in certain States and invalid in certain others and so on. This is an anomaly; it interferes with legitimate trade and business; it incites to litigation; and it is very costly.

Unless and until a patent is litigated in each of the nine circuits and in the District of Columbia it can not be safely declared good throughout the domain of the United States, or bad throughout such territory. Such extensive litigation would consume all the earnings of any one of many large corporations, to say nothing of firms and individuals.

Speedy adjudication is vitally important, as without it the term of the patent may largely or wholly run out before the patentee on the one hand and the public on the other, can know their rights. If the inventor have rights they should be protected; if he have none the public should not be hampered.

The period of actual use of a patented device is often materially less than the term of the patent, other devices supplanting it. This emphasizes the need of prompt and final adjudication of patent causes.

The need is great and pressing. Any constitutionally created court of patent appeals, having final jurisdiction for the entire country will be welcomed. Details are of wholly secondary importance.

We now give in tabulated form the comments, criticisms, and suggestions received, taking up, first, the bar-association bill for a changing court, and later the Johnston bill for a permanent court:

#### *Bar association bill—Changing court.*

##### CONSTITUTIONALITY.

*Advantages claimed.*—The constitutionality of a court created in accordance with the provisions of this bill is asserted by its advocates generally, though questioned by a few of them. It numbers among those maintaining its constitutionality men of prominent and recognized ability. The question is discussed and favorably viewed in memoranda filed by Mr. Taylor.

*Objections urged.*—The constitutionality of a court composed of judges selected from existing Federal courts and designated or assigned by the Chief Justice of the United States to sit as members of the proposed new court, each for a specified term of years, is denied by some and seriously questioned by others. It is contended that this is a distinctly new court, the presiding judge



of which is newly appointed by the President by and with the advice and consent of the Senate, to hold office during good behavior; that all the judges of the court must be similarly appointed to comply with the Constitution of the United States, Article II, section 2, and Article III, section 1, as construed by the Supreme Court in *American Insurance Co. v. Canter* (1 Peters, 511-546).

These criticisms are also from men of recognized standing and ability.

The question is discussed in a brief by Mr. Johnston, who regards the plan unconstitutional.

It is urged that no chances should be taken upon so important a point. If not constitutional, the court could only create endless trouble and confusion pending final determination of this question. All decisios, orders, etc., made would be null and void, and rights might be lost meanwhile.

#### EXPEDIENCY—LIKELIHOOD OF PASSAGE.

*Advantages claimed.*—It is important that the bill be simple, free from objectionable features, and likely to pass. This is claimed for the bar association bill.

It avoids objectionable or debatable provisions, notably suits against the United States for infringement of patents.

A court organized in accordance with this plan could be more readily abandoned if found unsatisfactory.

*Objections urged.*—The probable necessity of appointing new judges now, to take the places of those assigned to the new court, together with the need of further appointments in future on each recurring new assignment to this court, and the amount and indefiniteness of expenditure involved, will militate against the passage of the bill.

No court should be created with a view to its future abandonment. Especially should not its efficiency be subordinated to any such consideration.

#### QUALITY OR CHARACTER OF COURT LIKELY TO RESULT.

*Advantages claimed.*—A court composed of circuit court judges designated for the purpose provides a working court of trained judges ready at once to begin work.

Such a court would be broader, by reason of wide experience, than one composed of lawyers without experience on the bench. It would command greater respect.

It would require no time to get organized and begin work.

Periodical introduction of new judges would prevent the court from becoming narrow. The scheme of rotation would make possible the displacement of undesirable judges. Drawing upon all sections, it would be influenced by the interests of all and not conserve those of one at the expense of others.

*Objections urged.*—The field of choice, being limited to existing circuit judges, is too small.

Judges for a patent court should possess mechanical and technical knowledge as well as legal. Very few judges comprehend such questions. The first assignment would probably take all the circuit judges well able to pass upon patent questions, and each recurring assignment would lower the efficiency of the court.

Judges unfamiliar with patent law, but desiring to live in Washington or seeking promotion, might bring personal and political influence to bear to secure designation or appointment, thus defeating the primary object sought.

Interested parties, desiring to secure a given line of decision, would labor to secure appointment or designation of judges previously sounded, occasioning sudden change of doctrine and begetting scandal.

It is claimed that the experience of New York State in taking judges of trial court to sit in appellate court has proven very unsatisfactory.

One correspondent suggests that no one should be appointed who has not had 15 years of active patent practice in the courts.

Few judges will be willing to change residence twice in six years.

Long service produces good judges. Short service would remove judges just when becoming well equipped. Taking judges in rotation would soon exhaust supply of competent patent judges, and standard of court would rapidly deteriorate.

## EDUCATIONAL BENEFITS.

*Advantages claimed.*—A changing court will result in educating the circuit court judges in patent law, interesting them therein and overcoming the present unwillingness to try patent cases.

Returning to the circuits, these judges will carry their added knowledge and experience with them and thus improve and steady the patent practice of the circuits.

Avoidance of patent cases by circuit judges when tried in the circuit courts because of a desire to sit at their trial in the circuit court of appeals will cease, because they will no longer go to the circuit court of appeals.

*Objections urged.*—It is neither necessary nor useful to educate the circuit judges in patent law, since as a matter of fact the district judges try nearly all patent cases in the circuit courts.

If there be any force in the suggested education of judges with a view to their return to the circuits, district judges should be selected rather than circuit judges.

## RELATIVE COST OF TWO PLANS—PRESENT AND FUTURE.

*Advantages claimed.*—Only one new judge and few new officers will be required, hence additional expense will be very small, whereas a court of five new judges would be far more expensive.

The proposed court, by removing patent cases from the circuit courts of appeals, would lessen the work of circuit judges and enable them to bring up the work of the circuit courts.

*Objections urged.*—All the circuit courts and district courts are already overcrowded with work. If any of the judges be taken away, new and additional judges must be appointed in their stead.

When a circuit judge returns to his circuit there will be too many judges in that circuit, while some other circuit will next be depleted and will in turn require further new judges. As a consequence, there will be a constant and rapid increase of judges far exceeding the entire number called for by the plan for a permanent court, and the increase will be wholly without regard to where it is needed, as the circuit judges return after their circuits are supplied.

## APPROPRIATE SALARIES.

*Advantages claimed.*—The salaries proposed for the changing court judges will be an inducement to the circuit judges to consent to break up their homes or leave them for a term of years and accept service in the new court.

Salaries should justify this and should be commensurate with the dignity of the court, which will be inferior only to the Supreme Court of the United States.

The inventors have paid into the Federal Treasury about \$6,000,000 more than the amount appropriated for the Patent Office, hence the Government can well afford to pay good salaries to the judges of a patent court of final jurisdiction.

*Objections urged.*—Salaries proposed are deemed excessive.

(This sentiment is by no means general.)

## EFFECT UPON EXISTING COURTS—RELIEF AFFORDED—DISTURBANCE RESULTING.

*Advantages claimed.*—Removal of patent cases from the circuit courts of appeals will lessen the work of said courts and leave the circuit judges free to do more work in the circuit courts.

It will tend to cause the circuit judges to hear patent causes in circuit, instead of throwing them upon the district judges.

If the number of judges in any circuit be unduly reduced, additional district judges may be appointed; or several circuit judges at large might be appointed, to sit wherever needed.

*Objections urged.*—Taking judges away from the circuit or the district courts would greatly cripple them, disturb and unsettle business therein, cause great delays, and necessitate replacing the judges taken by others unknown to the bar, unfamiliar with local surroundings and conditions, and not acquainted with the details of practice in such court.

Confusion would thus be created in two circuits every two years or oftener.

Retiring judges would feel a sense of reduction in grade or rank and importance, and they would be out of touch with the work of the circuit on returning thereto after six years on the patent appeal court.

#### EXTENT OF JURISDICTION—SUBJECT MATTER.

*Advantages claimed.*—The proposed jurisdiction is that of existing courts of appeal in patent cases.

Sections 4915 and 4918, Revised Statutes, are preserved, as they should be.

Interference cases should be removed from the Patent Office, and proofs should be taken under control of the court and passed upon by it, to the end that adjudication may have weight and value.

Present anomalous system involves decision by four tribunals, after which it may be tried *de novo* under sections 4915 and 4918, Revised Statutes. Few inventors can stand the expense of proceedings under existing interference practice.

Suits against the United States for infringement of patents, being for torts, should not be included, and are not, under the bar bill.

*Objections urged.*—Court should be authorized to certify any question to the Supreme Court.

Appeals from Patent Office should not be taken to the proposed court. Present plan is satisfactory, now that the Court of Appeals of the District of Columbia has become familiar with questions involved. Such appeals would tend to overload the court.

Many contend that provision should be made for suits against the United States for infringement of patents with either original or appellate jurisdiction in this court.

A few little trade-mark cases should also go to the new court. (This was originally provided in the bar association bill, but removed therefrom. The general sentiment is averse to its inclusion.)

#### NUMBER OF JUDGES.

*Advantages claimed.*—Seven judges will permit an adequate number to be writing opinions while a quorum is hearing cases. Fewer judges would not attain this end.

A greater range of knowledge and wider field of discussion would be afforded by seven than by five judges.

*Objections urged.*—Five of the seven judges instead of four should be requisite to a quorum.

Five judges are enough for the court, at least to begin with.

Five judges will involve less expense than seven. Taking five judges from the circuits will occasion less disturbance than taking seven.

The number can readily be increased but not easily diminished. (Constitution, art. 3, sec. 1.)

#### UNIFORMITY AND STABILITY OF PRACTICE.

*Advantages claimed.*—A court composed of experienced judges would be a broad and conservative tribunal, requiring no time to get into working shape and qualified to determine all classes of questions arising.

Periodical changes bring new life and keep the court from getting into ruts or becoming narrow. They also secure the sentiment of judges in all parts of the country.

Such a court would command greater respect than one composed of lawyers without experience on the bench. The practice would speedily become settled and definite, and would in turn be followed by the trial courts; thus insuring uniformity and stability.

Fewer appeals would be taken.

*Objections urged.*—Frequent changes in personnel would cause frequent changes of policy, doctrine, and decision. It would be possible for designing persons with political influence to bring about such changes as would result in reversing the line of decisions. Political and personal wire pulling and maneuvering would result and scandal would be occasioned. Stability would be impossible, however the changes came about, being so frequent.



*Johnson bill.—Permanent court.*

## CONSTITUTIONALITY.

*Advantage claimed.*—No question is or can be raised as to the constitutionality of the court, created in accordance with this bill. The court would be created as other Federal courts are.

The bill follows the Evarts Act of 1891, creating the circuit courts of appeals. Its language has been judicially considered and its meaning determined, and the present bill would have the advantage of such interpretation, so far as the two are alike.

## EXPEDIENCY—LIKELIHOOD OF PASSAGE.

*Advantages claimed.*—Being not open to attack as to constitutionality, and not depriving the President of his rightful power of appointment, it will avoid serious opposition which the other bill invites.

*Objections urged.*—By calling for a number of new officers or appointees, and particularly by providing for suits against the United States for infringement of patents, this plan divides those favoring a court of patent appeals and invites or insures opposition in the committees and on the floor of both Houses.

It is calculated to defeat all legislation on the subject.

## QUALITY OR CHARACTER OF COURT LIKELY TO RESULT.

*Advantages claimed.*—A permanent court, composed of judges having technical as well as legal knowledge and capable of comprehending readily a mechanical question, or one involving chemistry or physics, is better than one of judges having legal knowledge only.

Able lawyers having the requisite technical knowledge and perceptive faculties are available among patent practitioners.

A permanent court will insure greater uniformity and stability than a changing one, and its decisions will command greater respect.

Appointments according to the provisions of this bill would be constitutional, and would be under closer scrutiny than under designation because subject to confirmation by Senate; hence a better court would result.

A permanent court, having no present or future connection or contact with the trial court, would be far more independent than one in which the judges alternately sat in the trial and in the appellate court.

Appointments would be no more political than to other Federal judgeships. The President is trusted to appoint the justices of the Supreme Court; may he not be trusted to make suitable appointments to an inferior court of specially indicated character?

The special court of patent appeals in Germany, largely of specialists, is remarkably successful and satisfactory.

Judges of such a court should, and under this plan would have enough patent litigation before them to become proficient in patent law. This can come only through constant work in the patent court.

Life appointment to this court would cause its judges to take greater interest in the work and to study both patent law and the sciences and arts more thoroughly.

They would feel a pride in their work which a brief tenure would not awaken.

*Objections urged.*—A court composed wholly of patent lawyers would be narrow. A permanent court, considering one class of cases only, would get into ruts and would be arbitrary. The ecclesiastical courts of England are cited as an instance of such effect.

Advocates are seldom good judges; the judicial temperament is different from that necessary to develop a good advocate.

## EDUCATIONAL BENEFITS.

*Advantages claimed.*—The decisions of a court composed of strong patent lawyers, familiar not only with the general law but also with subjects of a technical nature, as physics, chemistry, and the mechanical arts, will command great respect, will serve as a guide for and will educate the judges of the circuit and district courts far better than would the divergent views of a fre-

quently changing court composed of judges without technical knowledge beyond the law.

*Objections urged.*—Judges do not return to circuits and disseminate their knowledge therein.

#### RELATIVE COST OF TWO PLANS—PRESENT AND FUTURE.

*Advantages claimed.*—The immediate cost of the permanent court will not be greater than that of the changing court because new appointments will be necessary to keep the circuit courts in working condition if judges be taken therefrom.

The ultimate cost of a permanent court will be much less than that of a changing court because in addition to the six new appointments required to prevent undue reduction of force in the circuit courts, two new judges will need to be added in each circuit from which fresh assignments are made to the court of patent appeals. Thus there will be under the bar association plan, two new judges added every two years, unduly increasing the number in some circuits when the circuit judges return thereto.

*Objections urged.*—Permanent court involves appointment of five new judges at once, as against one new judge for the changing court.

#### APPROPRIATE SALARIES.

*Advantages claimed.*—Salaries should be commensurate with the dignity and importance of the court and sufficient to induce good lawyers to accept the judgeships. At best they will be far below the earnings of leaders of the patent bar.

Inasmuch as the Patent Office has collected from inventors and paid into the United States Treasury some \$6,000,000 in excess of appropriations for the Patent Office, there should be no niggardliness in regard to these salaries.

*Objections urged.*—Salaries deemed excessive. (This is not a general sentiment.)

#### EFFECT UPON EXISTING COURTS—RELIEF AFFORDED—DISTURBANCE RESULTING.

*Advantages claimed.*—The proposed permanent court will create no disturbance whatever in the existing courts. It will not weaken them in number or change their personnel.

In the other hand, periodical withdrawal and return of judges from and to the circuits would entail great confusion and seriously interfere with business in the circuit courts.

#### EXTENT OF JURISDICTION—SUBJECT MATTER.

*Advantages claimed.*—This bill provides for suits against the Government for infringement of patents. The Supreme Court recognizes the fact that the Government has no greater right to take a patentee's property than has an individual, yet no recovery is now possible where suit is founded in tort. This bill gives a remedy.

Such suits should be brought in a court familiar with patent law and kindred questions. Interference cases should be removed from the Patent Office and conducted under direction of the court, so that a decision of some value and weight could be secured. Existing system is enormously expensive, tedious, and futile. Can all be tried de novo under sections 4915 and 4918, Revised Statutes?

This bill provides that the court may certify to the Supreme Court any question upon which it desires instruction. This is desirable and is a right possessed at present by the circuit courts of appeals.

*Objections urged.*—A few have suggested that copyright cases should not be included within the jurisdiction of this court. The general consensus of opinion is otherwise.

So, too, a few think trade-mark jurisdiction should be included. The general expression is otherwise.

The establishment of a court of patent appeals should not be jeopardized by proposing to give to it original jurisdiction of suits against the United States for infringement of patents. If desirable at all it should be accomplished by independent legislation at a future time.

If such jurisdiction be given this court it is desirable that the entire case be carried up on appeal, or at least the expert testimony and the exhibits.

The proposed basis of compensation for use of invention by the United States is wholly objectionable. It should cover use made of invention and provide a fair rate for such future use as might occur. Plan proposed is unjust to inventor if compensation be made only for part of term though use continue longer, and is unjust to United States if compensation be made beyond the term of actual use by United States.

#### NUMBER OF JUDGES.

*Advantages claimed.*—It is believed that five judges will be enough, at least to begin with, and this number will involve less expenditure than seven. While the bar association bill nominally calls for but one new judge, six will need to be appointed to supply the places of six taken from the circuits, and the president judge will make seven.

Additional judges can be appointed as and when required. The fewer the judges the fewer the dissents and the greater the uniformity and stability of decision.

*Objections urged.*—Five judges will not be enough to hear all the cases and write opinions. Should have enough to leave several free to write, while others hear arguments. The number hearing arguments should constitute a majority of the total membership, else opinions might be rendered contrary to the views of the court as represented by the majority.

#### UNIFORMITY AND STABILITY OF PRACTICE.

*Advantages claimed.*—A court composed of judges having legal training and either possessed of technical knowledge or accustomed to consider questions of a technical nature, could intelligently consider and determine all questions arising in a patent case.

Decisions rendered by such a court would command great respect and tend to bring about uniformity and stability of practice, which would be reflected in the lower or trial courts. Fewer appeals would then be taken.

This plan in no way precludes appointment of judges now serving in the circuit courts or elsewhere, but allows unhampered selection.

#### *Suggestions applying to both bills.*

#### TRAVELING OR FIXED COURT.

A few letters, five in all, suggest the propriety of having the court sit in stated times in different parts of the country, contending that it is unduly burdensome on parties at great distance, to compel them to come to Washington. It would be particularly so, it is claimed, if all motions and minor proceedings were necessarily brought here.

On the other hand, the labor and expense, and the fatigue occasioned the judges by compelling the court to travel over the country, would be great. The records would be difficult to care for, and many and serious inconveniences would result.

For many years all patent cases were appealable to the Supreme Court of the United States, sitting only at Washington, and all such appeals were heard here. It is believed that, in view of the fact that complainants and defendants are commonly widely separated, and that distances are now short, when measured in time of travel, it is unwise to adopt the suggestion of holding court in different cities.

#### NAME OR STYLE OF COURT.

It is suggested that the name or style proposed for the court is inappropriate, because not indicative of the scope of its jurisdiction. As it is to have final jurisdiction of suits under patents for invention, patents for designs, and copyrights, the criticism seems well grounded.

"Court of Appeals of the United States" and "Appellate Court of the United States," are two names that are suggested, the first of which seems preferable, because the Supreme Court is, in a far broader sense, the Appellate



Court of the United States, and such name, applied to the new court might cause confusion.

Of the communications received 74 favor a permanent court, and 54 favor a changing court.

For the information of the committee it may be stated that appeals from the Patent Office to the Court of Appeals of the District of Columbia, for the past three years, have averaged 28 per year.

Considerable stress has been placed upon the fact that the conditions of trade, commerce, and manufacture have greatly altered within the past few years and are still rapidly changing; that business is expanding, and that new conditions make new requirements. The judiciary should keep pace with these changes.

Not unfrequently the question is asked: Why should there be a special court for the trial of patent cases, any more than a special court for bankruptcy cases, a special court for admiralty cases, and so on, through all branches of litigation? The answer is that property in patents is a peculiar property, constituting a class by itself. It is personal property, yet extends, as to each patent, over all the domain of the United States, and is liable to infringement at any point therein, or at many points. It is, in the aggregate, of enormous value, yet its value is fleeting, lasting at most for 17 years, as to any particular patent, and often departing in far shorter time. It is essentially intangible; it can be and often is appropriated secretly and without the knowledge of the patentee at the time. In the case of processes, and in the manufacture of goods, which can be carried on behind closed doors, it is well-nigh impossible to detect the unlawful use, yet the profit of such use is just so much taken away from the rightful owner of the patented invention. For these and other reasons property in patents differs from other property, and requires different consideration and treatment.

#### POSITION OF THE PATENT LAW ASSOCIATION OF WASHINGTON.

This association, having in its general meetings, through its committee on laws and rules, and through individual study and discussion, as above stated, given much time and thought to the subject, and having noted the unanimity of opinion in favor of a single court of final jurisdiction in cases involving patents of invention or design, and copyrights, and observing the divergent views as to various minor matters, recommends the introduction and passage of a bill creating a court of final jurisdiction in such causes, with precisely the same jurisdiction therein that was vested in the Supreme Court of the United States prior to the establishment of the circuit courts of appeals by the act of 1891, with the addition of appellate control over injunctions in patent cases.

It affords this association much pleasure to be able to state that this suggestion has been made to those primarily representing the respective bills above noted, and that gratifying responses, indicating a willingness and a purpose to adopt and act upon the suggestion, have been received. Such a bill is now in preparation and will be offered in the near future, indorsed as we believe by all parties who have thus far taken part in the discussion of the general subject.

Respectfully submitted.

PATENT LAW ASSOCIATION OF WASHINGTON.

JESSE H. WHITAKER, *President*.

GEORGE P. WHITTLESEY,

ROBERT T. FRAZIER,

ARTHUR S. BROWNE,

FRITZ V. BRIESEN,

WILLIAM W. DODGE, *Chairman*,

*Committee on Laws and Rules.*

MR. VESTAL. I want to ask the gentleman one question. Do I understand that there are nine districts in the United States now?

MR. ROBERTSON. There are numerous districts, but there are nine circuit courts of appeals.

MR. VESTAL. That is what I mean. Each one of these courts has concurrent jurisdiction with the other courts?

MR. ROBERTSON. Yes; in its own circuit.

MR. VESTAL. Yes. Now, why couldn't the difficulty be eliminated by a case being tried before one of these courts and the briefs of the

case in that court be sent to each of these other judges, and let them all pass upon that case? As I understand it, these districts are made for the purpose of convenience for the people trying these cases. Now, if you have a court of patent appeals in Washington they have got to come from all over the United States.

MR. ROBERTSON. Only for the appealed cases. The case is tried first in its own district. If one of your constituents is sued in a patent case, the suit will be instituted in the court of the district in which he is located, if the infringement takes place there.

MR. VESTAL. Yes; I understand that, but as I understand this bill, you are expecting to make a court of patent appeals from these district courts.

MR. ROBERTSON. Yes, sir; in Washington.

MR. VESTAL. You are to take, as I understand it from this bill, six of these different judges from these district courts?

MR. ROBERTSON. That is correct.

MR. VESTAL. And as the condition is to-day, you mean to say that we have no court of appeals?

MR. ROBERTSON. We have these nine courts of appeal. To answer your question a little more specifically, let me give you one concrete case. Suppose, for example, one of your clients owns a patent on a railway device, a refrigerating car or some part of a refrigerating car or a car coupler—any part of a car—and he sells that to some corporation and gets his value for it, or he has to bring suit himself. He brings suit in one district and his patent may be sustained in that district court. The defendant takes an appeal; the patent is sustained by his circuit court of appeals, but the next time he finds an infringer—

MR. VESTAL (interposing). I want to get this proceeding. Now, he takes that appeal where?

MR. ROBERTSON. He takes that appeal to the circuit court of appeals for that circuit, sometimes comprising four or five different States.

MR. VESTAL. Now, as I understand it, there are nine of those?

MR. ROBERTSON. There are nine of those all over the country.

MR. VESTAL. Now, my question is, why not, when that appeal is taken, why can't the briefs in that case before that court be sent to all the other eight court and let them pass upon that case?

MR. ROBERTSON. Would you send the records, too?

MR. VESTAL. Yes; the records of the case.

MR. ROBERTSON. How about the oral arguments?

MR. VESTAL. Cut out the oral arguments at the end of a case. A man that could make an oral argument ought to be able to put it down on paper. It is the law in the case that these men pass upon; it isn't the talk that they have before the court. It is the law that governs these cases.

MR. ROBERTSON. You say it is the law?

MR. VESTAL. It is the law in the case that these courts pass upon.

MR. ROBERTSON. The law and the facts, too; for often the greatest question, and sometimes the only question, is whether or not a particular device infringes a patent—a question of fact.

THE CHAIRMAN. What would you do in a case of demonstration?

MR. ROBERTSON. Yes; what about the physical exhibits? These patent cases are the most intricate cases in the courts.

Mr. VESTAL. I am just asking for information. I don't know a thing about patent law; I never tried any patent cases.

Mr. ROBERTSON. You would take what the judges say are the most intricate cases they have and compel all nine courts (including the overcrowded ones) to review what one court could review, even if the nine courts could have the records and the physical exhibits to which the chairman has referred, which they would not have, of course.

Mr. VESTAL. Wouldn't your very argument, if these courts are crowded, be against the proposition in this bill to have a shifting personnel? Why not have a permanent court?

Mr. ROBERTSON. Now, that is answered by the speakers who appeared for the shifting personnel, and both sides are also brought out in this report to the committees of Congress, of which I have filed a copy. Both sides are very exhaustively treated in this report.

The CHAIRMAN. Mr. Robertson, I would like to ask a question. I have a communication that I intended to incorporate in the record for the benefit of the committee, from Mr. Arthur E. Dowell, of the firm of Alexander & Dowell, in Washington, who has been attending the hearings, and wrote the committee under date of July 12. There is one paragraph here that I wanted to call to your attention and ask you what your ideas are on it. He makes an entirely new suggestion:

I venture to suggest for your consideration that section 3 of the proposed act—

Referring to the court of appeals—

be amended in such manner as to have the Chief Justice annually designate six justices to act as associates justices of the United States Court of Patent Appeals for the next ensuing term of the court, instead of for six years.

He goes on here—I believe it may be well just at this point to suggest another paragraph:

This would, I think, avoid largely, if not wholly, the necessity of appointing additional district or circuit judges, in view of the fact that a number of circuit courts are not overcrowded and judges could be readily spared therefrom for one term of the court of patent appeals. Further, such term would not require any designated judge to break up his home nor put him out of touch with the conditions in his own district or circuit, as a six-year absence would do.

Mr. ROBERTSON. Mr. Chairman, Mr. Dowell has had a great deal of patent litigation and is a very able man. I would give thoughtful consideration to anything he suggests, but I can not answer that in behalf of our association, because it has not been submitted to it; however, individually, I would point out the fact that it would nullify the idea of the shifting personnel advocates. What they want is to bring these judges here for a term of six years in order that those judges may become thoroughly grounded in patent law and go back to their circuits, and that is one of the points urged by the bar association committee—

The CHAIRMAN. Right there, I don't like to break in on your argument, but I have this in mind also, that they don't favor the idea of men being appointed permanently who would specialize in it. Now, what value would that education be to those men after six years, if they were thoroughly grounded in patent law, unless they were to try patent cases on appeal? After they had gone back and served their term here and become educated—to use that expres-



sion—in patent law in all of its involved questions, what value would those men be in straightening out our patent difficulties?

Mr. ROBERTSON. On the circuits?

The CHAIRMAN. Yes.

Mr. ROBERTSON. After they get back?

The CHAIRMAN. Yes. You have taken away all of that work from them by the establishment of your patent court of appeals; now what value would those men be to us after six years of experience?

Mr. ROBERTSON. I can't see, Mr. Chairman, what value that experience would be to those judges if they returned to the circuit courts of appeals and not to the district courts, because then they will not be able to hear patent cases on the circuit courts of appeal and will not have a patent case at all except when they step down into the district courts to help out the district courts, as stated by Judge Hand.

Now, for own personal view, I think the whole thing a bugaboo—I refer to the disadvantages said to accrue from permanent judges. We must all recognize the fact——

The CHAIRMAN (interposing). That is just exactly the point I want to get.

Mr. ROBERTSON. Please bear in mind the fact that this is my personal view, expressed not as the view of the Patent Law Association, because the association is committed to the shifting personnel, but my own personal view is this, that the President of the United States does not pick out junior members of the bar to be district and circuit court judges. Why, by the time a man takes his college course, his professional course, gets his degree and then is admitted to the bar, and after that spends sometimes a dozen years and sometimes twenty or thirty years in perfecting himself in his profession, earning a reputation for himself, he may be made a judge of a district court, and after he has been on the district bench a few years he may be appointed a circuit judge. Then under the plan of this bill, the judges are brought to Washington for a term of six years. Now, it is within the province of the bill to have some of those judges kept here 12 years, as has been repeatedly said to you. By that time, if you please, most of these judges will be ready to retire.

The CHAIRMAN. There is nothing in the law to prevent them from being here 24 years.

Mr. ROBERTSON. No; but even if they are here 12 years—only a few judges serve 24 years—they retire by that time. A judge isn't appointed when he is 25 years old; you can take judicial notice of that, and I don't think the judges who come here will, in the course of 6 years or 12 years, become so hidebound in patent cases as to forget all the law they ever learned, and if they do, by that time they will be almost ready to retire, and in any event their places—there will be seven of them—their places as they retire will be filled with members either fresh from the bench or the bar. Hence I think, personally speaking, that the fear that permanent judges will be narrow is a bugaboo.

The CHAIRMAN. You touched upon a phase that has not been covered to any considerable extent. Why should we have seven judges, two less than the United States Supreme Court, rather than five or three?

Mr. ROBERTSON. Mr. Fish touched on that. As I recall it, he said that it had been proposed to have five judges, but he wanted seven because he thought five would not be able to get through with the cases with sufficient expedition. If we have seven judges on this court and five constitute a quorum, then there will always be two judges who will be studying the cases previously argued. Substantially, Mr. Fish said we prefer seven, but give us a court with five if you don't give seven, because if we have five and they can't do the work, then Congress in its wisdom can give us two more.

The CHAIRMAN. I think that covers it.

Mr. CAMPBELL. In your personal opinion, you favor the permanent court?

Mr. ROBERTSON. I favor the permanent court, but would be glad to have either. I want a court of patent appeals.

Mr. CAMPBELL. You reached that decision after diligent study and perhaps experience. Now, is it possible that the members of the American Bar Association lack in experience and did not give the thought to it that you did before they reached their conclusion?

Mr. ROBERTSON. Well, Mr. Campbell, I should like to answer your question in this way: The patent section of the American Bar Association is composed of the foremost patent lawyers of the land. They have given careful consideration to this shifting personnel bill for years, and even in our own association there are some who prefer the shifting personnel after a careful study. As a matter of fact after investigation, while the majority—74—of our correspondents as shown by this report favored the permanent personnel, 54 correspondents after careful thought and consideration favored the shifting personnel bill.

Mr. CAMPBELL. I am not an attorney, and it strikes me as a layman that the permanent plan would be the better one.

Mr. ROBERTSON. Personally, I agree with you.

Now, just a word, please, as to the amendments suggested to the Patent Office bill by Mr. Sturtevant, chairman of our committee on laws and rules. We want reinserted in the law that practitioners may be disbarred for "gross misconduct." That has been the law of the land for 50 years, and we do not want the expression "gross misconduct" let out of the law by any oversight.

One thing more: Commissioner Newton approved all the amendments submitted by our committee except the one giving notice in the Official Gazette of suits and decrees. I don't care anything about that personally, because I am located in Washington, and, as the commissioner says, I can go to the Patent Office and get down the official file and get the information for myself; but there are hundreds of nonresident attorneys located all over the country who can't go across the street to the Patent Office and get this information. The man out in San Francisco has to telegraph here if he wants the information in a hurry, while, if it is published in the Official Gazette, he can get it at once. Most but not all decisions are published in the Federal Reporter, the best publication of its kind in the world, but even the Federal Reporter doesn't always give this information. A few years ago a suit was instituted against one of my clients and against another manufacturer out in the Middle West. There were three suits altogether, and neither my firm nor the firm out West could trace

any previous adjudication, but months afterwards we found that there had been a previous adjudication, and after we got a certified copy of the decision, we wrote to the West Publishing Co. and asked them why they didn't print it, and here is their reply, signed by the editor in chief:

We do not think that this opinion is of sufficient importance to justify publication in the Federal Reporter.

Yet there were two other concerns sued, if you please, and my client's very existence depended upon whether this patent was valid. The letter continues [reading]:

This accords with the views of Judge ———, who expressed the decided wish that it be not published.

Now, Mr. Chairman, that is one of the things we want to prevent. We want every manufacturer who subscribes to the Official Gazette and every patent lawyer to have right within his grasp, in his own office, a little notice, only three lines—the Patent Office usually does it now—regarding suits in patent cases. The Federal Reporter prints most of them, but does not print them all; and if the Patent Office Gazette publishes these little notices of every suit instituted and of every decree, anyone interested can, with that information, write to the proper court and get a copy of the bill or decision by paying the fees that the court requires. That is a vital matter to the attorneys outside of Washington.

One more amendment, and that is about the copies of patent records for litigants. The amendment suggested does not change the law in all respects. We have been, since 1891, having certified copies of printed patents made for a nominal sum. The present bill omits this. That is a very serious omission. But I am now speaking of manuscript copies. It is now necessary for not only the complainant but the defendant to go to the Patent Office and get copies of records, and some of these records are very long, costing \$25, \$50, even hundreds of dollars; and if the Patent Office is, as it often is, months behind with its work, then either the complainant or the defendant has to pay a double charge for getting these copies. This doesn't make much difference in the revenue of the Patent Office.

The trouble is the Patent Office can't get the employees—and, by the way, in this connection I call your attention to the fact that under one provision of one of these bills the Patent Office is allowed to employ temporary per diem employees to help out in this copying in times of stress, but, if you please, Mr. Chairman, the per diem amount allowed for that purpose is insufficient, since it is even less than the minimum wage for Government employees fixed in your bill, upon which I notice (and I am glad to congratulate you) that you got favorable action from the House yesterday. Now, they can't get these employees to make these copies. The amount that the bill now provides is not sufficient. The result is that sometimes they are 2,000,000 words behind in their orders. Yet we must have them in time for court use, and therefore we have to pay double price. To a large corporation that does not make much difference, but sometimes it happens to be a humble constituent of yours who has to go to the Patent Office and pay \$50 instead of \$25 for a copy. It is that thing that we wish to avoid. The chief clerk will in his statement refer to



a copy which cost the Patent Office "not to exceed \$15" to compare and certify, and under the present law the Patent Office was compelled to charge the litigant \$560 for this \$15 job.

With respect to the independent bureau bill I have not been instructed to speak for the association. Therefore my views are entirely personal. You have asked some serious questions, which I shall endeavor to answer.

Mr. BURKE. May I ask a question, Mr. Chairman? What is the reason you can not secure sufficient help?

Mr. ROBERTSON. In the Patent Office?

Mr. BURKE. Yes.

Mr. ROBERTSON. Because the Patent Office employees are the poorest paid clerical employees of the Government. Just for example, Mr. Chairman, I have in mind an instance of one young man who was working for six years in the Patent Office. I am talking about Mr. E. J. Ayres, who is at the present time chief clerk of the Interior Department, at a salary of \$4,000 per year. Mr. Ayres was in the Patent Office, doing very valuable work there, for six years and over, and he couldn't get over \$900 in the Patent Office. He got a transfer to the Land Office, and in a very short time, comparatively, he was getting \$1,800, and finally Mr. Lane made him chief clerk of the whole department at \$4,000. That man would have stayed in the Patent Office if they had treated him a little more liberally. When he left it took two clerks, one at \$1,200 and one at \$1,400, to do his work. They are having cases of this kind all the time in the Patent Office, and that brings us right in touch with this independent bureau bill. The employees of the Patent Office are paid less than anywhere else under the Government, and also less than in the other bureaus of the Interior Department. I am talking now particularly about the clerical force.

Mr. BURKE. Under the Nolan bill he would have received \$1,080 a year and \$240 bonus.

Mr. ROBERTSON. Yes; temporarily—the bonus temporarily. That is true for the lowest-paid employees, Mr. Chairman. Now, I know one bright young man who went into the Patent Office, who has been there for 20 years, and is getting \$1,400, not counting the bonus, and he has also been doing the work of two men, because one of the other employees in his division is detailed in another division for war work. This man is doing two men's work and getting \$1,400 a year for it, when he ought to be getting \$2,000 for one of those jobs.

Mr. DAVIS. As I understand it, the point you are endeavoring to impress upon the committee is that no adequate provision is made for increased compensation for a man who has proven unusually skillful and efficient as compared with clerical positions throughout the Government service?

Mr. ROBERTSON. Exactly. There is stagnation in the Patent Office which results every year in men leaving the Patent Office to go elsewhere. I have in my hand here an exhibit that I would like to have introduced in the record, if you care for it, showing the number of changes in the Assignment Division of the Patent Office, just one division—and let me say a word for this Assignment Division, if you please. It is not an ordinary clerical division; it is a recording office. The chief of that division ought to be called the recorder of patent deeds. He has one-third more deeds to record than the recorder of the District of Columbia; he gets half as much salary. He not only has

to record, but he has to digest and abstract and, in addition to all that, he has one more important duty put upon him by Congress; he has to make the same kind of certified reports that real estate title companies do—furnish certified abstracts of title. That man gets \$2,000 a year, if you please, while the recorder for the District of Columbia gets \$4,000, I think. The officer who does the recording for my own county in Maryland gets \$2,500, and it is an agricultural county, too. The registers in the Land Office, who register the claims of those who stake out the land, in 1903 received \$3,000; to-day they get \$500 plus commissions and plus fees, not to exceed altogether \$3,000; but this recorder in the Patent Office receives \$2,000.

The CHAIRMAN. But those positions are political positions.

Mr. ROBERTSON. I beg pardon, they are there for the sole purpose—

The CHAIRMAN (interposing). I mean the registers of the land offices throughout the country.

Mr. ROBERTSON. All right, let us agree to that; but you don't see any resignations from them.

The CHAIRMAN. But I say they are all political appointments, not civil service.

Mr. ROBERTSON. I don't know; if you say so, of course, it is true.

The CHAIRMAN. All the positions of that kind necessarily carry high salaries. They are "plums."

Mr. ROBERTSON. Well, are all recorders of deeds in political offices? Will you not see some of them stay there year after year?

The CHAIRMAN. But the recorder of deeds in the District of Columbia is a presidential appointment. The registers of the land offices throughout the country are also presidential appointments.

Mr. ROBERTSON. All right, let us agree to that; but the fact remains that this recorder in the Patent Office only receives \$2,000 a year.

The CHAIRMAN. The comparison that I am trying to draw is—

Mr. ROBERTSON (interposing). One is permanent and the other is not?

The CHAIRMAN. No; that is not the idea; but one is a political appointment and the other is civil service, and the civil-service employees always get less than the political appointees.

Mr. ROBERTSON. Notwithstanding their services are worth more?

The CHAIRMAN. It is not a question of how much service they render.

Mr. ROBERTSON. In connection with this matter I want to present to you this exhibit which shows how difficult it is for this recorder of deeds in the Patent Office to keep his force. In 1917 he had in his division 51 clerks. He lost by transfer, 18; by death, 1; 1 was dropped; 4 resigned; detached, 10; for military service, 1; total loss of 35; and in their places he was assigned 30 green clerks, making a total loss for the year of 4.

In the next year, 1918, he lost the following: Military service, 4; death, 1; transferred, 3; detached, 5; resigned, 3; total loss, 16; assigned to division, 14; total at the end of two years, 44, where he began with 51. The total changes in two years were 51, the same number he started with. Now that division has very important work. It takes all the patent deeds of the whole country. It not only records them by making a facsimile copy, but the clerks up there

have to digest or abstract them so that anyone can go there and not only examine the whole instrument but can examine the digest or abstract and make a title search and report to the client as to whether or not there is a clear title before the client pays \$25,000 or \$100,000, or whatever the purchase price may be. The clerk who makes the certified abstracts of title upon which thousands of dollars may be transferred gets \$1,400, while those doing similar work elsewhere often get from \$3,000 to \$4,000. To show one more feature of the inadequate care of the Patent Office under the Interior Department, I asked the chief of this division, who gets the same salary as the chiefs of mere clerical divisions, what would happen if these assignment records burned, and he said, "We keep them in a vault which I got after 15 years' persuasive requests." Then I said, "Look at these over here; what do they cover?" "Oh, they cover the last 17 years, the life of a patent. They are not full copies, but just digests or abstracts and indexes." I said, "What will happen if you lose those by fire? They are in wooden cases."

The CHAIRMAN. That is the usual thing here in Washington, Mr. Robertson. What is the use of trying to cite the Patent Office as a particular instance of it? The most valuable records that the Government of the United States has are down in the State Department, with absolutely no protection from fire or anything else. We haven't any place here where we can keep any of our valuable records, so it doesn't make any difference whether it took that man so many years to get a safe; it is the usual thing in all departments.

Mr. ROBERTSON. No; but the point is this, Mr. Chairman, when I asked him how long it would take to replace those on wooden shelves he said it would take at least 100 clerks' entire time for five years. How did he know? Because in eighteen seventy-something Congress had to appropriate \$10,000 to replace a much smaller number.

The CHAIRMAN. We have got records here that never could be replaced in a thousand years, simply because they are left at the mercy of fire or some other method of destruction, but we don't seem to get anywhere with a provision to have them properly protected, so it is not an unusual thing in the Patent Office.

Mr. WHEELER. Before you pass that, referring back again to this copying—

The CHAIRMAN (interposing). I am thoroughly in agreement with the idea that some method ought to be evolved, some agency established here, for all the departments to protect valuable records.

Mr. BURKE. Before you get away from this question, is the Patent Office unable now to keep up its work on account of shortage of help?

Mr. ROBERTSON. Yes, sir; it is absolutely impossible.

Mr. BURKE. Very well; if you are unable to keep up with the work, what do you do? Do you send the work out to somebody else?

Mr. ROBERTSON. No; it is neglected—put off.

Mr. BURKE. It is neglected?

Mr. ROBERTSON. Yes. The other day, if you please, I had to furnish a certified copy that had to be in London on the 1st day of August or it might just as well be thrown in the wastebasket. I had to furnish the Patent Office a full copy of that, line for line, page for page, for the Patent Office to certify for use in London. The Patent Office simply had to read it over to see if it was correct and certify it—put on a one-page certificate, which is all printed except



for filling in the blanks—and they charged me for it exactly the same—which they had to charge under the law—exactly the same as though the Patent Office copied every word instead of merely comparing it. As I have already said, for one copy, furnished entirely by the litigant and costing the Patent Office “not to exceed \$15” for comparing and certifying, the Patent Office was compelled under the present law to charge the litigant \$560. Is it any wonder litigation is too expensive?

Mr. WHEELER. About these copies for clients, you stated that sometimes there would be a saving of \$25 if the proper help was available. Isn't it true that a great percentage of the people making applications for patents are men of very limited means?

Mr. ROBERTSON. It is often so; yes.

Mr. WHEELER. I should say 75 per cent of them in my State are men of very limited means.

Mr. ROBERTSON. Why do the Patent Office officials want an independent bureau? They look at other bureaus—you have asked me some specific questions and I am going to answer two or three of those questions, but first I want to say, they have seen the Labor Department grow from a small bureau under Carrol D. Wright, until it became too vast for a bureau and became the present Labor Department. They have also seen the Agricultural Bureau, once I am told part of the Patent Office, finally become a separate bureau, and see how it has expanded now into a department with all the multitudinous bureaus in it. I think it receives about \$30,000,000 a year now. They have seen the Interstate Commerce Commission, the Federal Trade Commission, the Tariff Commission—all these bureaus get what they want. Now I am not going to expand on that, because, Mr. Chairman, you know all about that, but I want to say this, that 70 years ago Congress provided for the examining corps of the Patent Office salaries that were the same as they paid themselves. It was then an honor, and continued for decades to be an honor to be principal examiner of the Patent Office. To-day, after 70 years under the Interior Department, these examiners are the poorest paid scientific men under the Government. It is no longer an honor to be there. They are resigning—the commissioner told you that 25 per cent of the force resigned last year, and he told me the day after the last hearing that six of them resigned last week. He told you also that the Civil Service Commission instead of furnishing 100 men last year, was able to supply only six to fill the vacancies. That is the deplorable situation.

Now why has the Patent Office suffered under the Interior Department? One reason is because, as you have been told, there is no appeal to the Secretary in patent cases. Another reason is that every Secretary I have ever known—I have had my office right across from the Interior Department for 30 years, until it moved two years ago; and during all that time I have never known a Secretary of the Interior to be selected because he knew anything about patent cases, but almost always because of land or other connections. There are, I think, seven different bureaus—six or seven different bureaus connected with land matters. It is only natural that he should be selected for that purpose; it may be best that he should be selected for land purposes. There is an appeal in all those cases, those land

cases, mining cases, pension cases, to the Secretary. In patent cases there is no appeal and the Secretary has no tangible connection, except the mere one that takes charge of the financial side of it, the administrative side of the Patent Office.

Now, answering specific cases: In 1907 the Patent Law Association after canvassing the country, had a bill introduced, of which I will leave you a copy, known as House bill 286 of the Sixtieth Congress, which provided \$3,000 salaries for the examiners, \$7,500 for the commissioner, and so on with this proviso:

*Provided*, That in addition to the salaries above provided for, there shall be allowed and paid to the examiner of interferences—

I will skip a part of it—

5 per centum of the current yearly salary of the grade in which he is employed for each term of two years of his service in that grade until the salary of the grade in which he is employed, together with the additional pay for length of service, shall in case of the examiner of interferences, the examiner of trade-marks and designs, the law clerks and the principal examiners, amount to \$3,500.

The House Committee on Patents gave favorable consideration to that bill. It was advisable, however, to get the favorable report of the Secretary of the Interior. The Commissioner of Patents was heartily in favor of it, of course, and he went to the Secretary of the Interior, but the Secretary said, "No; I will not stand for more than \$3,000. The Commissioner of Patents therefore had to be content to come down to \$3,000, because he had to get the Secretary's recommendation, and Congress, in its wisdom, split the difference between \$3,000 and \$2,500 and gave them \$200 increase, the first increase since 1848. That is one specific instance of interference.

The CHAIRMAN. Congress did not split the difference between the Secretary and the Commissioner of Patents though.

Mr. ROBERTSON. No; but I say that Congress did split the difference between \$3,000 and the then salary of \$2,500.

Another specific instance: Congress, in about 1912, authorized an expenditure of \$5,000 for plans for a new Patent Office building. Mr. Lane came in, as Secretary of the Interior—he has a new building, but for the Interior Department, not for the Patent Office—I don't mean he spent this \$5,000 for it; he got the appropriation properly, of course, but he didn't use the \$5,000 for plans for a new Patent Office building.

There are examples all along the line of such things as that, where the Patent Office has been interfered with, where formerly even a new typewriter couldn't be obtained until they went to a clerk in the Interior Department for it, until finally they had to allot to the different bureaus the appropriation for supplies.

You asked the Commissioner of Patents the other day if he had been interfered with by the Secretary. Now, Mr. Newton, I want to say, is a splendid gentleman, but he is a very modest gentleman, too, and he knows what to ask for and what not to ask for, and he never asks Mr. Secretary Lane for what he knows he can't get. If you want to find out the facts about these matters, ask the subordinates over there, the members of the examining corps. Bring them up here and ask them how the Patent Office has been interfered with, and you will get the facts before you, the specific facts.

The CHAIRMAN. Yes; and we can do that in every other branch of the Interior Department and every other branch of the Government service.

Mr. ROBERTSON. You are asking for facts and I am giving them to you.

The CHAIRMAN. But I would like to have some good, substantial reasons, so far as I am concerned, why this institution ought to be divorced from the Interior Department and an independent establishment set up. I haven't gotten it yet.

Mr. ROBERTSON. Two more facts and I will quit on the subject. I am simply trying to lay the facts before you if I can.

It is of record in the Patent Office—the Patent Office is permitted to disbar attorneys for gross misconduct, and you will be astounded to see what happens before the Patent Office on the part of some of its practitioners; how innocent inventors are bled financially. So the Patent Office is allowed to disbar a man for “gross misconduct,” and has been allowed to disbar a man for gross misconduct for 50 years, subject to the approval of the Secretary of the Interior—and it is very proper to have a review. This new bill provides for a review by the courts, where it should be. One attorney was found—and he was disbarred for it—found to have filed an affidavit made by three men who never saw the affidavit. Of course, he was disbarred. Another instance, though, which I had particularly in mind was where the Commissioner of Patents and both of the assistant commissioners agreed that the offense with which a certain attorney was charged was “gross misconduct.” The facts were admitted, and the finding was referred to the Secretary for approval; but the Assistant Attorney General, if you please, disapproved the finding. Why? I will leave that to your own minds to decide, but the facts were that the action of the three Patent Office judges was not sustained.

Here is one more instance bearing out what you asked me about. Some time ago Commissioner Ewing met Secretary Lane, and Secretary Lane said that he could give Mr. Ewing 10 minutes to confer about patent matters. Commissioner Ewing replied that he didn't want 10 minutes, but when the Secretary had half an hour to devote to patent matters he would be glad to confer with him about the Patent Office.

Mr. Chairman, I want to say once more that I am just giving you these facts because you have asked for facts, but that the association has taken no action on that separate bureau matter.

#### SALARY BILL.

Now, I want to talk about the salaries of the members of the examining corps and then stop.

We introduced a bill in 1906, as I have told you, of which a copy is herewith furnished—House bill 286, Sixtieth Congress, first session; also known as House bill 22678 in the succeeding Congress—in which we asked for an increase of salaries for patent examiners, the maximum of which would be, with longevity pay, \$3,500 for the principal examiners. That was 13 years ago, and all will agree that



at that time \$3,500 was easily the equivalent of \$5,000 to-day. A copy of the bill follows:

[H. R. 286, Sixtieth Congress, first session.]

A BILL To provide increased force and salaries in the United States Patent Office.

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,* That section 477 of the Revised Statutes shall be, and is hereby, amended to read as follows:

"SEC. 477. That the salaries of the officers mentioned in the preceding section shall be as follows:

"The Commissioner of Patents, \$7,500 a year.

"The Assistant Commissioner of Patents, who shall perform such duties pertaining to the office of commissioner as may be assigned him by the commissioner, \$6,000 a year.

"Three examiners-in-chief, \$4,500 a year each."

SEC. 2. That the salaries of the examiner of interferences, the examiner of trade-marks and designs, the law clerks, the principal examiners, and the assistant examiners in the Patent Office shall be as follows:

The examiner of interferences, \$3,000 a year.

The examiner of trade-marks and designs, \$3,000 a year.

The law clerks, \$3,000 a year each.

The principal examiners, \$3,000 a year each.

The first assistant examiners, \$2,500 a year each.

The second assistant examiners, \$2,000 a year each.

The third assistant examiners, \$1,600 a year each.

The fourth assistant examiners, \$1,200 a year each.

*Provided,* That in addition to the salaries above provided for there shall be allowed and paid to the examiner of interferences, to the examiner of trade-marks and designs, to each law clerk, to each principal examiner, and to each assistant examiner 5 per centum of the current yearly salary of the grade for which he is employed for each term of two years of his service in that grade until the salary of the grade in which he is employed, together with the additional pay for length of service, shall in case of the examiner of interferences, the examiner of trade-marks and designs, the law clerks, and the principal examiners amount to \$3,500 a year, and in case of assistant examiners shall equal the initial salary above provided for the next higher grade.

I am here to-day in response to action taken last October by the American Patent Law Association, before we knew anything about the bills presented to you recently. We had not been in consultation with Mr. Prindle or his committee. Mr. Prindle did not even communicate with us until June 26, and what I am saying to you is independent of the endeavors of the National Research Council. This action we took last October. Our committee's report was approved by the association in annual meeting and was as follows:

A number of years ago this association went on record for an increase of salaries in the Patent Office and prepared and had introduced a bill which led the way to a partial increase. In view of the greatly increased cost of living and the number of resignations from the examining corps, your committee recommends that the board of managers and the association make active efforts to effect such an increase in the salaries in the Patent Office as will make them commensurate with the services performed and place them on a parity with the salaries in other departments.

Since that was done the National Research Council has prepared their bill, asking for \$4,000; the National Association of Manufacturers and other associations referred to by Mr. Prindle have asked you for \$4,000. The Economy and Efficiency Commission in 1912, investigating all the salaries of the Government, recommended that the salaries of the examiners of the Patent Office should be—seven

years ago this was—\$3,600 a year. Why? This is quoted from their report:

Especially as the heads of divisions in other scientific and technical bureaus usually receive that salary.

You have asked the question, "What will keep these examiners from resigning and what will keep them there?" There are two things that will keep them there. First, increasing their salaries, not to the point where they would be the same as your own, as you once did, but certainly in advance of what the clerical divisions are getting elsewhere—a salary somewhat commensurate with the work they are doing, a salary equal to that paid other scientific employees. The salaries in the bill under discussion will keep them there—not all of them, but the vast majority of those who would otherwise resign. A few men are so constituted that they would rather get out into the busy world and argue cases in court, but most of these men are not. They are scientific men. They are men who would rather do research work; they would rather have an honorable position in the Patent Office, if it is honorable—and at the present time I want to call your attention to the fact that some of these examiners do no any longer consider it an honorable position. Why? Because they have to do that work so speedily that they can't give it even respectful consideration. The principal examiners (each one has a number of assistants) have to go through these cases with all the care in the world—they are supposed to, I mean. I am told that those chief examiners review 100 cases a week. Now, in a moment, if you will let me show you, I will give you an ocular demonstration of what these examiners have to do. Let me repeat that while you can't keep all the men there for \$1,000 a year, you can keep most of them. You will find that most of them will welcome a chance to stay there at that salary.

The CHAIRMAN. You will have to finish in a few minutes, Mr. Robertson. Of course, if you want to, in addition to what you are saying here, place anything in the record, we will be glad to give you that privilege.

Mr. ROBERTSON. Mr. Chairman, I can stop now; but there is one thing that I do want to do, whether now or later, and subject to your approval, of course—I would like to make an ocular demonstration—I can't put it in the record; that is impossible; but I would like to show you a file of the Patent Office.

The CHAIRMAN. How long would it take?

Mr. ROBERTSON. Ten or fifteen minutes. This is a very important matter, and I would like to show you just what has to be done from a concrete illustration of a patent file.

Mr. WHEELER. We will have a roll call immediately, Mr. Chairman, at the House.

The CHAIRMAN. I expected Judge Manton, of New York, to be here, but he has not shown up, and we will adjourn now until to-morrow morning. I have a few letters here that I want to put into the record, but I will put them in after your remarks to-morrow.

Mr. ROBERTSON. I thank you very much, gentlemen, for your patient hearing.

(Whereupon, at 11.45 o'clock a. m., the committee adjourned until 10.30 o'clock a. m., Friday, July 18, 1919.)

COMMITTEE ON PATENTS,  
HOUSE OF REPRESENTATIVES,  
*Friday, July 18, 1919.*

The committee met at 10.30 o'clock a. m., Hon. John I. Nolan (chairman) presiding.

The CHAIRMAN. The committee will come to order. Proceed, Mr. Robertson, just where you left off yesterday.

**STATEMENT OF MR. THOMAS E. ROBERTSON—Continued.**

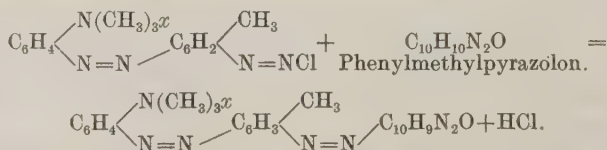
Mr. ROBERTSON. Yesterday I said I would like to demonstrate to you just exactly what the examiners of the Patent Office do, therefore I have brought before you a file of a patent case. I will not go into the merits of the case. I have also brought a model of the device taken to pieces so that you can see what a small space it takes. It is one of these little consecutive numbering machines to print numbers on checks and stubs. You have seen them all over the United States. The machine sells for from \$10 to \$18. There are hundreds of patents on them; this is merely one improvement.

When an attorney has an application like this, no model is filed in the Patent Office. He has to furnish drawings in which every detail is shown most explicitly. Often one sheet of drawings is sufficient, but there are six sheets of drawings here [indicating]; and if you will look at this sheet you can see how complicated the parts are, yet they can all be put into the hollow of your hand. As I said, this case has six sheets of drawings; but Mr. Sprague mentioned to you a case of his which had 20 sheets of drawings, and I think he said it had between 200 and 300 claims—here it is, 263 claims, and each of these sets up a different invention under the law. I shall not refer to Mr. Sprague's patent again except to state that it is so complicated that one electrical expert said that "it would take nearly a week to read it." I will pass it around so that you can examine it and see for yourselves that it takes a technically and legally trained scientist to understand, interpret, and construe it. In the Patent Office these technical experts, with both scientific and legal training, receive \$2,700; in the Agricultural Department dozens of the scientific employees—not members of the bar—receive \$3,500, \$4,000, \$4,500, and \$5,000.

I also have with me—to show how simple some patents appear—a patent taking one sheet of paper, a German dye patent, and ask that two paragraphs from this be inserted in the record—to copy the equation used in this patent and what the patentee claims under the patent law as exclusively his:

EQUATION.

The reaction is set out in the following equation:



*x* in this equation means chlorin or an equivalent radical of an acid.



## CLAIM.

Having thus described my invention, I claim as new and desire to secure by letters patent—

As a new product, the yellow dyestuff obtained from diazotized meta-trimethyl ammonium phenyl-azo-meta-toluidin and 1 phenyl 3 methyl 5 pyrazolon, being an orange-yellow powder, soluble in water, alcohol, ether, and benzene; insoluble in petroleum ether, dyeing, tanned and untanned cotton as well as half wool yellow in an acid bath, substantially as set forth.

I believe every member of your committee will agree that it requires a scientist who must also have legal training to understand, interpret, and construe this German dye patent.

When the application for this little numbering machine was prepared, it was filed with a petition asking for a patent, a power of attorney, a description containing 26 typewritten pages, 90 paragraphs or claims, and an oath in which the inventor swore that he was the first, original, and sole inventor, that the invention was never known or used before he made it, or patented or described in any printed publication in any country, before his invention; that it had never been patented in this or any foreign country to him or to anyone else or been in public use for more than a certain length of time; and that he obtained no patent on an application filed in any foreign country for more than 12 months before he filed his application in this country, etc. The reason for this last is that if he had obtained a foreign patent on any application filed abroad for more than 12 months before he filed here, he would be prohibited under our law from patenting his invention in this country.

At the end of his descriptive matter, the inventor claims what is new with him—in this particular case, 70 paragraphs that we call “claims.” Each one of these must be different, and yet this inventor sets forth 70 alleged points of novelty, and the law requires that every one of the claims shall be new and original with him. If he claims more than is original with him, he is fencing in something that belongs to the hundred million people of America. Now, the case is prepared by the attorney—and the big corporations have very skillful attorneys—sometimes several in a single case. Mr. Sprague told me the other day about one case in the Patent Office that cost him \$10,000 in attorneys’ fees. While he was paying his attorneys \$10,000 in one case, the Patent Office was paying its examiner, the judge, the final arbiter, \$2,700 a year as a maximum to act upon that and hundreds of other cases under his control.

Returning to the case under discussion, the examiner had to consider the petition, the oath, etc., and see that all the allegations were properly made, and then he had to take the description—

Mr. JOHNSTON (interposing). What is the name of the man that gets \$2,700 a year?

Mr. ROBERTSON. The principal examiner or primary examiner—interchangeable terms. We loosely refer to them as “examiners.”

The CHAIRMAN. That is the man from whose decision they appeal to the Commissioner of Patents.

Mr. ROBERTSON. In all cases where the invention is susceptible of being illustrated by drawings, the inventor is required to indicate in his specification and in the drawing each part by reference character, as “barrel 22” or “pawl 24.” In this case the reference characters go from 1 to 118, so you see how many small parts there are. Now,

the examiner must read those 26 pages of descriptive matter very carefully with several things in view. He must ascertain whether every reference character therein agrees with the reference characters on the drawing. If not, he must call attention to it. But he has to do something more important than that—a clerk could do that in simple cases—he has to decide whether the invention is clearly disclosed. Why? So that anyone can make and use the device claimed by the inventor. If not, the patent is not valid. The examiner also has to decide whether the invention is operative, if it will do what the inventor says it will.

If not operative, he will reject it for that reason. He must also see if the inventor is making any laudatory claims to his invention or claiming it is superior to others, whether he is taking any unfair advantage of others. After he gets through with these 26 pages of typewritten matter [indicating]—this is a small case, mind you—he has to study these claims in which the inventor sets up the metes and bounds of his invention, by which he is fencing off from the hundred million of the American people things that they can not use; that he has the exclusive right to make, use, and sell under the Constitution and laws passed by Congress. He must not only understand all of the 70 paragraphs or claims, but he has to understand them so thoroughly that he can keep within his head a vision of all of them. Why? Because after he gets that mental vision he has to go through all of the United States patents on these numbering machines—and there are hundreds of them—and if he doesn't find the invention (or the equivalent of it) in the United States patents he must go through all the English patents; then through all the French patents, in the French language; then through all the German patents, printed in German; and through all other foreign patents that are in existence on numbering machines—and there are hundreds of them in this single class. This little invention here [indicating] was merely an improvement on other patents.

Mr. MACCRATE. He doesn't have to read French, does he?

Mr. ROBERTSON. He either has to read French, or if he can't read French—and most of them can—he has to take the French specification to the official translator of the Patent Office and have it translated, so that he can understand it.

Mr. JOHNSTON. You say most of them can read French?

Mr. ROBERTSON. Most of them can; but if they can't, they have an official translator for the examiners who can translate eight or ten languages.

Mr. RUSSELL, of the Patent Office. The Patent Office entrance examinations include a test on French and German.

Mr. ROBERTSON. The examiner should also search through any publications, periodicals, etc., on this subject in the Patent Office library or anything that he has collected in his own division—and most of them have collected catalogues, clippings from scientific journals, etc.—and see if the applicant is fencing off what belongs to your constituent, Mr. Chairman; because if he is fencing that off, it means the grant of a patent which will be the beginning of an ultimate suit and may cost your constituent thousands of dollars to defend and get away from, even though the patent may be declared valid.

Having done all this, is his work ended? No; he has to acquaint the attorney with what he has done. In this particular case he had to write an official letter comprising five typewritten pages, and this was an easy case in one respect, because he found only five clerical mistakes, but sometimes he has to take four or five typewritten pages to point out the clerical mistakes. After he gets through with the clerical part, his judicial action follows. He says to the applicant—I am not going to read this letter, only one sentence, just as an example: "Claims 1, 2, 3, and 5 are rejected on patent to Kresler," giving its number and date. Following this is a specific holding on each of the other 70 claims. In this official letter the examiner rejects in this first action 33 out of those 70 claims, because the inventor seems to be fencing off 33 things belonging to the general public.

That, if the committee please, is the beginning of the examiner's work; only his first action. When the applicant gets that statement he finds that a great many of his claims have been rejected. (It is a well known fact that attorneys usually fence in more than an inventor is entitled to in order to be sure to get all that he is entitled to, and frequently there is a battle royal between the examiner representing the general public on the one hand and his skilled attorneys representing the particular applicant on the other hand.)

Applicant's reply to the official letter takes 13 typewritten pages, and really reopens the case, since he wholly rewrites 17 claims and changes 18 others. Should the applicant wait for a year before replying, as the law permits, the examiner may have forgotten the intricacies of the invention and must consume perhaps a whole day (several days in very intricate technical cases) in refreshing his memory, or if he has resigned a new examiner must act on the case *de novo*. And the applicant may have changed his claims, as in this numbering machine case, making a new search necessary. Therefore the examiner must make another official action. In this particular case it is only three pages and involves the rejection of only 12 claims (the other 58 being allowed). One might suppose the examiner's work was now about over, but, lo! the applicant again amends his case, rewriting 13 claims, changing 7 others, and inserting 5 entirely new claims.

The examiner must go over the whole case a third time, and this time he writes the applicant that all the claims are now allowable except for a few minor objections noted. The applicant overcomes these objections to form, and files five entirely new claims, compelling the examiner to act the fourth time. On this fourth action the examiner and the attorney reach an agreement, i. e., they agree that all the matter the applicant is fencing in from the public belongs to him so far as the prior art is concerned. Even now the examiner's work is not finished, since he is compelled to make a search through his files before giving this applicant his patent, to be sure that no other applicant has recently filed an application for the same invention. If there is no other the case is "allowed." If there is another, a suit within the Patent Office must be declared by the examiner between the two applicants, so that testimony may be taken, the same as in an equity case, to prove which of the two is the prior inventor (910 of these interference suits were declared



by the examiners in the year 1918). These "interference" suits go before what is really a court within the Patent Office, in which the judge is called the "examiner of interferences." The ablest patent lawyers in the land appear before this court, the judge of which is paid only \$2,700.

The case above outlined was a simple one and was pending only a short time, but one of the automatic telephone cases, involving over 400 claims—I will pass it around so that you may see it—was pending over 16 years, during which time it must have been acted upon by a number of different examiners, owing to the frequent resignations. This automatic telephone patent is extremely technical and complicated. It would probably take an examiner a number of days' time to merely read and understand it, even though he were both a trained scientist and a member of the bar.

Do not think, however, that a case involving only one or two pages without any drawing is necessarily easy. Frequently cases apparently simple require more scientific knowledge than an intricate mechanical case. Thus an application on an explosive such as T. N. T. requires that the examiner shall know all about the chemistry of explosives; an application for the manufacture of steel requires a scientist from an entirely different but equally technical art; all the German patents for dyes require a knowledge of that intricate science; the examiner in charge of electrometallurgical patents has a particularly scientific art; the examiner having charge of refrigeration, liquid air, etc., must know all about the science of those subjects; and so on all through the Patent Office.

Having shown you the character of services performed by the examiners, let me ask the members of the committee if they do not all agree that it must take years of time to train these examiners to perform their scientific duties. I can assure you that it does, but in order to give you an idea of how long it actually takes to train men, graduating from our best colleges and technical schools, into competent patent examiners, I have prepared four questions and have had them answered by seven examiners from the Patent Office. I have not asked these questions of selected examiners who would be known to answer these questions in the most favorable light, but of the dean of the examining corps (the senior examiner), the examiners of divisions 1, 2, 3, and 4, one of the electrical examiners, and one of the chemical examiners.

I shall not read these but place them in the record, contenting myself with repeating only the answers of the dean or senior examiner. He says, first, that it takes two years to train the average green man; second, that during the first six months of his training it frequently takes enough of the time of his better-paid superiors to more than offset the value of the time of the green man; third, that it takes three years to train a green man into a man competent to examine automatic telephones, metallurgical inventions, etc.; and, fourth, that if a trained man resigns from the electrical class, as happened last week, or from some other technical art, and another trained man is transferred from some other class to take his place, it will require two years for the experienced examiner to become expert in the telephone art, the metallurgical art, or any other heavy art.

I ask that the answers of all seven examiners be inserted in the record.

The CHAIRMAN. Without objection, they will be incorporated in the record.

(The questions and answers follow:)

A series of four questions asked of the senior principal examiner, or the dean of the examining corps; of the examiners in charge of divisions 1, 2, 3, and 4; of the examiner in charge of the division having wireless telegraphy and automatic telephones; and of the examiner in charge of one of the chemical divisions:

Question 1. About how long a time does it take, on the average, to train a green man into a competent assistant examiner?

The DEAN. Two years.

EXAMINER, DIVISION 1. From nine months to a year.

EXAMINER, DIVISION 2. At least two years.

EXAMINER, DIVISION 3. I should say approximately one and one-half years, but this does not mean that he has in that time acquired that knowledge of the patents in a class to be really efficient.

EXAMINER, DIVISION 4. From one to two years, depending upon the class the assistant is working in.

ELECTRICAL EXAMINER. About two years; and by "competent" I would not mean thoroughly skilled, but one who is getting results commensurate with time used.

CHEMICAL EXAMINER. It takes at least a year for the average man to gain the knowledge of his art and of the patent law to be worth his pay, and longer than that to become really efficient.

Question 2. During the first six months of an assistant examiner's training does not he frequently take enough of the time of his better-paid superiors to more than offset the value of his own time?

The DEAN. Yes.

EXAMINER, DIVISION 1. Yes.

EXAMINER, DIVISION 2. Yes; decidedly.

EXAMINER, DIVISION 3. Usually, yes; sometimes longer, very seldom shorter.

EXAMINER, DIVISION 4. Yes.

ELECTRICAL EXAMINER. This is substantially the case on an average.

CHEMICAL EXAMINER. Yes; and some of them for a longer time.

Question 3. About how long a time does it take to train a green man into an assistant examiner competent to work in such classes as harvesters, automatic telephones, metallurgy, etc.?

The DEAN. Three years.

EXAMINER, DIVISION 1. An exceptionally bright and well-informed man could be trained to do the work in 15 to 18 months.

EXAMINER, DIVISION 2. Four to six years.

EXAMINER, DIVISION 3. Approximately two to three years; also subject to the remarks under the first question.

EXAMINER, DIVISION 4. Two years.

ELECTRICAL EXAMINER. Speaking in reference to automatic telephones, and except in cases of very rare ability in the assistant, I would not deem it desirable to assign him to such work till after at least two years' experience.

CHEMICAL EXAMINER. The more intricate and extensive an art is the longer it takes, of course, to learn it and to learn where to find it. I would say two years.

Question 4. If a trained assistant examiner (who has charge of such classes as harvesters, automatic telephones, metallurgy, etc.) resigns, how long a time does it take for a trained assistant examiner skilled in other classes to become thoroughly familiar with these complicated classes?

The DEAN. Two years.

EXAMINER, DIVISION 1. At least one year.

EXAMINER, DIVISION 2. The trained assistant never ceases the study of his class to keep up in it. Taking a new class, such an assistant has two or three years of hard study before he can feel fairly posted about it.

EXAMINER, DIVISION 3. If he were acquainted by education with the general science, as metallurgy, electricity, etc., he would probably become quite but not fully familiar with such art in a couple of years. If not previously acquainted

therewith, he would not become fairly familiar with the new class for five years or more; perhaps he never would be thoroughly efficient therein.

EXAMINER, DIVISION 4. Two years.

ELECTRICAL EXAMINER. From three to five years, I think, for the average in such complicated classes; and in some cases it might run even higher.

CHEMICAL EXAMINER. It took me over a year to become fairly familiar with my classes in metallurgy after I was transferred to division 3 from the division that was then handling can closures, bottles, wooden and paper boxes, etc., in which I had been for two or three years under a competent instructor. I was several years before I knew my classes and where to find the art in publications, and was still learning when I was made principal examiner and transferred to division 6. I am a mining-school graduate, too.

Mr. ROBERTSON. After the examiners are trained, as referred to above, which all agree consumes years of effort, and during which time they are under salary, the examiners are permitted to resign faster than they can be trained and, as a matter of fact, faster than the Civil Service Commission can at present supply green men. The vast majority of these resignations can be prevented and the deplorable situation cured by increasing the salaries as called for by the bill under consideration, which merely pays the examiners the same salaries as are now paid to other scientific employees.

#### RESIGNATIONS.

Commissioner Newton told you last week that about one-fourth of the examiners had resigned within a year. After the hearing he told me that six had resigned last week, one a principal examiner. I should like to place in the record the letter of resignation of this examiner, the commissioner permitting me to have a copy of the letter for this purpose.

The CHAIRMAN. We will be glad to have it.  
(The letter referred to follows:)

JULY 7, 1919.

The COMMISSIONER OF PATENTS,  
*Washington, D. C.*

MY DEAR MR. COMMISSIONER: I hereby tender my resignation as a principal examiner in the Patent Office, at \$2,700, to take effect at the close of business July 10, 1919.

I am leaving the Patent Office, as you know, largely because the compensation is only about half what similar service commands in patent work outside the Patent Office. Moreover, aside from the fact that the salary paid a principal examiner is too low, a condition where he receives less than 28 cents a day more than the first assistant examiners is preposterous. There is no incentive for a man to remain in the Patent Office after he has acquired the training it offers, and the only incentive for entering the office is to acquire that training, which has a commercial value outside the Government service if not within.

It is with sincere regret that I leave the Patent Office, and I wish to express here my deep appreciation of your many kindnesses to me and your ready consideration of all suggestions I had to offer in regard to changes in the practice of the office. Accept, sir, my kindest personal regards.

Your obedient servant,

CHAS. E. TULLAR.

Mr. ROBERTSON. These resignations have not been confined to the last two or three years. The examiners have been resigning for a score of years. In 1907 investigation showed that in the year 1899-1900 there were 17 resignations; 1900-1901, 12 resignations; 1901-2, 23 resignations; 1902-3, 17 resignations; 1903-4, 20 resignations;



1904-5, 19 resignations; 1905-6, 36 resignations. The resignations were then so serious that Congress, in 1906-7, was asked to increase the salaries of the examiners to \$3,500. Elaborate hearings were held before the Committee on Patents, the committee making a favorable report on the bill. Gen. Ellis Spear, one of our best known patent lawyers, who went into the Patent Office an examiner and came out commissioner, testified before that committee as follows:

I say that, in my judgment, the remedy for this situation is to pay the examining corps enough to keep them there and you need not pay them as much as people do on the outside, because the work at the office is honorable work, it is pleasant work, and it is quiet, and they are sure that they are free from anxiety, but you will have to pay them more than you do now. That is a matter of cold fact. They are going out all the time.

Then he was asked by the chairman if he thought a reasonable increase of salary would retain the great majority of them, and he said:

Yes; and I think it would be wise, as in the Regular Army, if there could be a gradual age or length-of-service increase. It would be a good thing, too, if it could be put into the law—and I don't know whether it is practical or not—that you would not take a man unless he would agree to stay there five or six years.

Now, you want to find what will keep the men there. Larger salaries; making it possible for the men to stay there and consider it an honorable place, so that they can do their work in a manner befitting that office and the character of the work and in the way the law really requires. But there is one more suggestion I might throw out on behalf of myself personally and that is if you prevent these examiners, if they resign, from practicing in any division in which they have been an examiner, you will have a further check upon them. And you may see how important that may be from the fact that some of these men resign from a division and go into practice for a client or for a corporation having applications in that same division. They are familiar with all the applications there; they have studied the cases of all the applicants, of rival companies, of independent inventors—

Mr. JOHNSTON (interposing). Wouldn't you have difficulty in getting men to go into the Patent Office if you did that?

Mr. ROBERTSON. Not if you give them proper salaries, because a lot of men don't want to go outside, and some men who have resigned would go back if they were paid \$4,000.

Mr. MACCRATE. Would you make that prohibition unlimited?

Mr. ROBERTSON. No; I would make it for a short time—two or three years. That would protect the public.

Mr. MACCRATE. Well, that seems to be rather unfair discrimination against one class of employees.

The CHAIRMAN. You mean prohibit them from leaving?

Mr. MACCRATE. You don't prohibit them from leaving, but you prohibit them from going into the departments and working in those departments.

Mr. ROBERTSON. No; do not prevent them from practicing before the Patent Office, but only from practicing for, say, two years before the particular division where they have been examiners.

Mr. BABKA. You mean prohibit them from practicing in the department where they had worked?

Mr. ROBERTSON. Yes; in the specific division or class in which they examined the secrets of all the different inventors of the country, because some of these examiners go out for corporations having patent departments, like the General Electric Co., the Westinghouse Electric Co., etc. They go out for these corporations; and even if they intend to be honest, they know the secrets of all independent inventors as well as those of rival corporations.

The CHAIRMAN. Now, they would only have just such things as they have had before them, would they not, in any particular section?

Mr. ROBERTSON. In one division, if you please, the examiner has all applications on automatic telephones, another examiner has electric railways, another examiner has all patents on explosives, and the chief of each division, if you please—the chief of a division has 8 or 10 assistant examiners under him who report to him—he reviews 100 cases a week, all in his own division, you know—he doesn't go out of his division. Suppose that examiner resigns, it would be all right for him to practice in any other division, but if he resigns and then practiced in his old division he has an advantage over other people.

Mr. MACCRATE. Couldn't he use somebody else if he didn't want to do it himself directly?

Mr. ROBERTSON. If a man intends to be dishonest, he can use some one else, of course. But if he intends to be honest, he still has that advantage, even if he tries not to make use of it.

Mr. JOHNSTON. In other words, he doesn't unlearn all that he learns there.

Mr. ROBERTSON. Exactly. Now, that may be off the subject; but every effort should be made to stop the Patent Office from continuing as a training school for patent lawyers. It is an economic waste.

#### SCIENTIFIC EMPLOYEES IN OTHER DEPARTMENTS.

I have prepared, but shall not read all of it, a list of a few of the many scientific men in the Agriculture Department, reciting the scientific titles given to these employees and their salaries. For example, in the Bureau of Plant Industry, after paying the chief of that division \$5,000, we find a physiologist, who is assistant chief, at \$4,500; a pathologist in charge of the laboratory of plant industry, \$4,500; a pathologist in charge of investigation of fruit diseases, \$4,000; and a number of other similarly styled \$4,000 scientific men. They even have a botanist in charge of economic and systematic botany who receives \$4,000. Exclusive of the heads of the department, there are three dozen jobs there of \$4,000 or over. May I ask that this statement be placed in the record?

The CHAIRMAN. Without objection, it may be inserted at this point.

(The paper referred to follows:)

*Examples taken from three dozen employees in Department of Agriculture receiving \$4,000 or over (not including the heads of the department).*

Chief of Bureau of Animal Industry-----	\$5, 000
Chief of Biochemic Division-----	4, 000
Plant physiologist and pathologist, Plant Industry-----	5, 000
Physiologist and associate chief-----	4, 500
Pathologist in charge of laboratory of plant pathology-----	4, 500
Pathologist in charge of investigation of fruit diseases-----	4, 000
Physiologist in charge of crop physiology-----	4, 000
Bionomist (in charge, etc.)-----	4, 000
Physicist in charge of biophysical investigation-----	4, 000
Botanist in charge of economic and systematic botany-----	4, 000
Horticulturist in charge of horticulture and pomological investigation--	4, 000
Agriculturist in charge of dry lands agriculture investigations-----	4, 000
Agriculture explorer in charge of foreign seed and plant inspection-----	4, 000
Chief of Bureau of Chemistry-----	5, 000
Assistant chief-----	4, 000
Chemist in charge-----	4, 000
Do-----	4, 000
Food and drug inspector-----	4, 000
Soil physicist, Bureau of Soils-----	4, 000
Entomologist and Chief of Bureau of Entomology-----	4, 500
Entomologist and assistant chief-----	4, 000

In addition there are dozens of others receiving \$3,500.

Mr. ROBERTSON. In connection with this list I desire to state that the examiners in the Patent Office are the counterpart scientifically of the men in the Department of Agriculture. Just as one example: The Director of Public Roads, who formerly received \$4,000 (and this salary was increased by the last Congress to about \$6,000), made an invention in roads. The application for this patent necessarily had to go to the Patent Office and be granted or refused by the examiner in charge of the patents on roads, this examiner having knowledge of the past and present roads of all countries, as well as the patented roads of all the world, and he was compelled to pass upon all the questions involved, i. e., whether the invention of the Director of Public Roads was novel, whether it was operative, whether he was fencing in that which belonged to some one else, etc. The Director of Public Roads now gets \$6,000, but the scientific examiner of the Patent Office who passes on said invention receives \$2,700.

I do not wish to have titles given to the examiners, but, nevertheless, consider it somewhat unfortunate that they are all referred to as "primary examiners." Hence I only wish to repeat as emphatically as I know how that these examiners are technical experts who not only have scientific training but most of them also have received legal training and are members of the bar; that we have in charge of one division an examiner who knows all about the chemistry of explosives; in another division one who knows all about the intricate telephone art; another who knows about the metallurgical art, including, of course, the science of manufacturing steel. In fact, through every line you can find these experts, yet they are all paid a uniform salary in the Patent Office of \$2,700, while there are dozens in the Agriculture Department receiving salaries from 50 to 100 per cent more. By increasing the salaries to the point designated most of the examiners now resigning will stay. (It may be



true that not all will, but those who go out will be few and far between. True, there are some men who prefer the active combat of the world of litigation—they prefer to go out and have clients—you know how that is, but most of the examiners want to stay in the Patent Office.)

As Gen. Spear said, "While you need to increase their pay, you need not pay them as much as people outside, because the work of the Patent Office is honorable; it is pleasant work, it is quiet, and the examiners are assured and are free from anxiety."

Many of the examiners marry in Washington and bring up their families here, and it is a big sacrifice for them to go elsewhere, yet many of them are compelled to resign and leave the city in order to get salaries sufficient to properly support their families.

A short while ago the examiner of interferences resigned to go with the National Cash Register Co. He told me that if he had been receiving \$4,000 a year he would not have gone. There are other examiners in the Patent Office who are considering offers to leave, and their hope of staying in the Patent Office is that your committee will pass the bill increasing their salaries.

Let me say one word about the examiner of interferences. He is different from the other examiners. We have two of them now, but until two years ago one examiner of interferences had to pass upon trade-mark rights as well as patent rights. Just one example of the cases decided by him: In one case—and it is not an exceptional case—there were three attorneys on both sides, and the question involved was whether one corporation or a large trust, comprising seven companies, should have the exclusive right to the name which both of these companies were using. One company had evidence showing that it had spent \$600,000 in advertising that name. Testimony was taken, printed records and printed briefs were filed, and counsel from Chicago, New York, and Washington argued this interference case before the examiner of interferences, who had to decide which of the two corporations should have the exclusive right to that name. That examiner—the judge, as we call him—is paid \$2,700 a year, and he has been compelled to resign in order to earn what the scientific men in the Department of Agriculture receive as a matter of course. We have lost five examiners of interferences in succession, big men, who were compelled to resign in order to support their families and who received only \$2,700, while we are asking for \$4,000 for them, and \$4,000 will keep them.

Then, there are five law examiners, one of whom acts as counsel for the Commissioner of Patents before the court of appeals and elsewhere. Last year there were 34 *ex parte* cases appealed from the commissioner to the court of appeals. The law examiner had to appear as counsel for the Commissioner of Patents in these cases in opposition to the best patent lawyers of the land, and the law examiners receive only \$2,700, while the solicitors and attorneys in the other departments receive from \$4,000 to \$9,000.

The CHAIRMAN. If these men are made so important, I am afraid the committee might feel that no increase of salary would retain them.

Mr. ROBERTSON. I think Gen. Spear answered that question.

The CHAIRMAN. I know, but we have had a great deal along that line.

Mr. ROBERTSON. Well, I will close my remarks now and thank you for the patience you have shown me.

The CHAIRMAN. I would like to ask you, Mr. Robertson, about the fees. These three bills mean a great increase in expenses incident to the administration of the patent laws.

Mr. ROBERTSON. As I understand it, there has been an increase in the filing fee and a decrease in the final fee that would probably net, all told, a hundred and forty or fifty thousand dollars a year. At my suggestion, Mr. Sturtevant made the statement the other day that it would be about \$200,000 a year, but I want to correct that. If there are 70,000 cases where the first fee is increased to \$20 instead of \$15, there would be a gain on the 70,000 cases of \$5 apiece. Now, there will be an offset to that, of a loss of \$5 on the patents that are granted. If there are 40,000 patents granted there would be a loss on the 40,000 of \$5 each, or \$200,000, making a net gain of almost 30,000 times \$5, or \$150,000.

The CHAIRMAN. Have they decreased the fee for the final granting of the patent?

Mr. ROBERTSON. Yes; the bill increases the initial fee from \$15 to \$20 and decreases the second fee from \$20 to \$15. Now, that is, I believe, a suggestion of the Commissioner of Patents. I believe the bar is not responsible for it.

The CHAIRMAN. I would like to ask you, are you in favor of the Patent Office being put on a self-sustaining basis.

Mr. ROBERTSON. The Patent Office, with the exception of last year, when there was a deficit of \$73,000, has had a surplus over every expense ever since I have known it, sometimes over \$200,000 a year—a surplus over every expense. It is on a self-supporting basis now.

The CHAIRMAN. Do you believe it ought to be put on a self-supporting basis?

Mr. ROBERTSON. Kept on a self-supporting basis?

The CHAIRMAN. Yes.

Mr. ROBERTSON. I think that is absolutely immaterial. I think Congress ought to treat the patent system generously, but if it is necessary in order to get Congress to provide increases in salaries, and they can't get it any other way, yes; I would favor increasing the fees. But don't forget, Mr. Chairman, when you do that, that the increase of fees comes out of the pockets of some very poor constituents of the Congressmen who are running this country.

The CHAIRMAN. Yes; and we also know that some of the fees come out of the pockets of gentlemen who are interested with those constituents and generally get the benefits of the inventions.

Mr. ROBERTSON. Please also remember there is a surplus of \$8,000,000, I am told, over every expense the Patent Office has been put to—\$8,000,000 piled up in the Treasury.

The CHAIRMAN. You gentlemen who are always having business with the Patent Office and practicing before the Patent Office come in here with a salary bill providing for an increase of almost 100 per cent—

Mr. ROBERTSON (interposing). Mr. Chairman, 70 years ago these examiners got the same compensation as Congressmen—

The CHAIRMAN (interposing). I am not talking about what they got; I am talking about your bill which provides for practically doubling the present cost of the Patent Office, as far as salaries are concerned.

Mr. ROBERTSON. It provides an increase of from \$2,700 to \$4,000, and the total increase is only \$1,600 over a period of 70 years.

Mr. JOHNSTON. That applies to only 50 examiners, but there are a lot of other increases.

The CHAIRMAN. I have in mind the actual increase. Outside of that I think this committee ought to give some consideration to the lower paid employees of the Patent Office, which will probably double the present cost, \$2,600,000 instead of \$1,300,000.

Mr. ROBERTSON. I agree with you fully that those clerical employees should be increased, too. It is a disgrace to the Government to have employees over there doing the work they do and receiving such small salaries.

The CHAIRMAN. It seems to me that if the inventors of the country, the people that are the beneficiaries of these inventions, the patent lawyers, and all those interested in the Patent Office are so anxious to increase the expenses of the Patent Office—and I don't say but what their measures are right—they at least ought to be willing to increase the fees. If it is to cost more to administer the Patent Office, shouldn't it cost more to transact business with them?

Mr. ROBERTSON. I think that is why the commissioner suggested that idea of turning those fees around, making \$20 the first fee. They would get a little larger amount in that way. But may I just reply to one suggestion you made. I don't know whether I gathered an erroneous impression, but it seems to me there was a little sting about the patent profession in one of your previous remarks. I want to say, if you please, that the patent profession comes here advocating a patent court of appeals bill, knowing it will decrease their fees.

The CHAIRMAN. I am talking about the profession, and every element behind these bills advocating something which will cost the Government about 100 per cent more than it costs now to administer the affairs of the Patent Office, without coming in also with a proposition in the way of an increase in fees that will anywhere near take care of the increase in cost.

Mr. ROBERTSON. Undoubtedly that is correct.

The CHAIRMAN. You are the representative of the American Patent Law Association, and I want to know from you whether your association would be in favor of the increased fees to meet at least part of this expense?

Mr. ROBERTSON. I am unable to answer that question categorically, because our association has not taken that up, but if you wish us to do that, we can consider it and vote on it and let you know about it. It will take a little time to do it.

The CHAIRMAN. I doubt very much if you can get that referendum vote in time to give the committee the benefit of the result of it. The gentlemen who do know these things ought to get at them as soon as possible, and in getting at them they ought to give, I think, some consideration to the matter of revenue. We at least will have to justify these increases, because the question will be asked us what we



have done to take care of them. There is a tendency on the part of Congress to shut down rather than to increase the expenses, the running expenses of the Government, and they are looking for revenue from every possible angle, and if they think this is a probable source of revenue they will wonder why this committee did not give it some consideration, since they were increasing the expenses of administering the patent laws and the patent system, and since the proponents of this legislation have pointed out that it has always been self-sustaining and has produced a surplus, why, when we were recommending the tremendous increases, didn't we make a recommendation for an increase in fees.

Mr. ROBERTSON. May I suggest just one point, and that is this: That the other departments of the Government, such as the Agriculture Department, while doing a world of good for this country are doing it at the cost of the general taxpayers. That is all I want to say. I thank you very much for your consideration.

Mr. McDUFFIE. Speaking of the employees, how long do they work every day—seven hours and a half—the Patent Office employees?

Mr. ROBERTSON. They work from 9 o'clock in the morning until 4.30 in the afternoon, except half an hour for lunch; and many of those men have worked after hours at night to keep up their work. I recall one time a few years ago when the commissioner said, "Gentlemen, you will have to get your work up." And they were compelled to pass on twice as many applications in three months as had ever been done before in the history of the Patent Office. They were not allowed to take half a day off in October, November, and December of that year, and were working over hours, besides.

Mr. McDUFFIE. They are granted 30 days' furlough, or leave, aren't they, and 30 days' sick leave if necessary?

Mr. ROBERTSON. They are.

Mr. McDUFFIE. And they get national holidays and Saturday half holidays in summer?

Mr. ROBERTSON. I can assure you, sir, that some of those examiners don't get all of that vacation; and, as I say, in the particular three months I am speaking of they were prohibited from taking their vacations, and the commissioner who was in charge of the office then knew if they didn't take it by the 1st of January they couldn't get it at all under the law; and yet those men had to get double the number of cases out. They knew they couldn't do it properly, but they had to do it, properly or otherwise, and in three months they cut down from 23,700 cases to 10,300 cases in arrears.

Mr. McDUFFIE. It is hard for anybody in Washington to live on any kind of salary. I think we ought to take into consideration what a man is doing, though.

Mr. ROBERTSON. I don't know anywhere of any such faithful lot of employees as there are in the Patent Office.

The CHAIRMAN. I have here a letter of transmittal from M. H. Coulston, chief clerk of the Patent Office, addressed to the chairman, inclosing a statement on the bills before the committee. If there is no objection on the part of the committee, the letter and the statement will be incorporated in the hearing at this point.

(The papers referred to follow.)

DEPARTMENT OF THE INTERIOR,  
UNITED STATES PATENT OFFICE,  
Washington, July 17, 1919.

MR. JOHN I. NOLAN,  
*Chairman Committee on Patents,  
House of Representatives.*

DEAR SIR: I am transmitting herewith the statement which you requested me to make to your committee in connection with the bills H. R. 5011, H. R. 5012, and H. R. 7010.

Very truly, yours,

M. H. COULSTON, *Chief Clerk.*

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STATEMENT OF MR. M. H. COULSTON, CHIEF CLERK, UNITED STATES PATENT OFFICE.

MR. CHAIRMAN AND GENTLEMEN OF THE COMMITTEE: A request was made that I should furnish for the information of your committee a statement showing the qualifications required of the members of the examining corps of the Patent Office, and also the examination requirements to which these men submit themselves before obtaining admission to the office through the civil service. I desire to submit the following report in compliance with that request:

The board of examiners in chief, although an appellate tribunal, is counted as a part of the examining corps. Its duties are to hear and decide appeals from the primary examiners and examiner of interferences where these officials have refused to allow a claim or claims in an application for a patent, or, in a contested (interference) case, have awarded priority of invention to one party, denying the grant of a patent to the other or others. Their jurisdiction extends only to the question of the merits as distinguished from questions of form.

The members of the board have to carefully examine the applications for patents involved in the appeal and become thoroughly acquainted with the inventions to which allegation of patentability is made. They must be able to determine whether the invention will operate in the manner set forth; therefore they must be acquainted with the laws of mechanics, physics, chemistry, etc. They must determine whether the "claims," which technically are the brief, concise definitions of the invention with which each application terminates, cover proper combinations of mechanical elements or coacting steps in a process so as to properly define broadly or narrowly the invention. They must analyze the invention and the claims which mark out its boundaries. They must carefully examine the grounds on which the claims have been refused; read carefully anticipating patents, domestic and foreign, on antedating publications that may have been cited as a bar, comparing the appealed claims with the disclosure in these patents or publications; they must decide not only whether the invention as defined by the appealed claims is disclosed in the cited "art," but also the much more difficult question as to whether the exercise of the inventive faculty was required to produce the new invention from the inventions embodied in existing patents or publications.

They must thoroughly understand the patent law and be familiar with court and office decisions interpreting it. In contested cases their judicial functions require an ability to analyze evidence, sifting the probable from the improbable, and adjudging the preponderance. Crude machines or models must be compared with perfected ones; rough sketches and working drawings must be understood that the possible concept of invention be found, if present. The questions of abandonment of the invention as a matter of fact, or abandonment of the application as a matter of law, as by laches, must be decided.

It will, therefore, be seen that the qualifications possessed by a member of the board of examiners in chief are diverse and exacting. He must be a judge learned in patent law and a scientist trained in the mechanic arts. Section 482, Revised Statutes, expressly provides that "the examiners in chief shall be persons of competent legal knowledge and scientific ability." They are ap-

pointed by the President, by and with the advice and consent of the Senate, and their term of office is indeterminate.

But from whence do these members come? Almost invariably from the grade of primary examiner.

There are 45 examining divisions in the Patent Office each in charge of a primary examiner and each having from 6 to 9 assistant examiners. There are also two examiners of interference, an examiner of classification, and an examiner of trade-marks and designs.

The primary examiners in the examining divisions have to supervise the work of the assistant examiners and have to assume all responsibility for the actions made by them. On them devolves the work of training new assistants. They must be very familiar with the classes of inventions treated in their several divisions and the location of related inventions in other divisions. They are all men of long experience in the office, having invariably reached their present positions by passing through the several grades of assistant examiners.

Their ability to analyze inventions and claims must be the same as that of members of the board of examiners in chief, since the character of their work along this line is precisely the same. They are directly involved in and responsible for the grant of the great majority of the patents issued, estimated as high as 90 per cent.

Their work differs from that of members of the board in that it is confined to certain classes of inventions and does not include the handling of contested (interference) cases further than deciding when an interference exists and preparing the cases for the interference proceedings. But their work also includes the settlement of questions of form, which the board does not consider, and this demands a thorough knowledge of office practice and procedure. It has long been recognized that any primary examiner is fitted by knowledge, training, and experience to become a member of the board of examiners in chief, and, as above stated, vacancies on the board have almost invariably been filled from the grade of primary examiner.

The assistant examiners are divided into four grades, first, second, third, and fourth assistants. They come into the office as fourth assistants and are promoted to the higher grades on the results of competitive office examinations given to test their efficiency and knowledge of office practice. As they advance in the grades they are entrusted with more difficult cases, and when they reach the grade of first assistant they assume charge of the division in the absence of the primary examiner.

The work of the assistant examiners is to make the search of existing patents and publications on which the allowance or rejection of claims are based, and is, therefore, of the highest and most important character. These men must be trained in the mechanic sciences to understand the inventions and must acquire a knowledge of patent law to do their work. The great majority of the fourth assistants begin attending some local law school soon after entering the office and continue this course of study to graduation and admission to the bar.

As showing the training in science and law possessed by members of the examining corps, the following results of a recent canvas are submitted in tabular form:

#### TRAINING IN SCIENCE.

##### *Science degrees held by members of the examining corps.*

Doctor of philosophy (Ph. D.)	7
Doctor of medicine (M. D.)	18
Doctor of dental surgery (D. D. S.)	1
Mechanical engineer (M. E.)	21
Electrical engineer (E. E.)	19
Civil engineer (C. E.)	19
Chemical engineer (Ch. E.)	2
Master of science (M. S.)	15
Bachelor of science (B. S.)	115
Master of arts (A. M.)	37
Bachelor of arts (A. B.)	98
Bachelor of philosophy (Ph. B.)	15
All others	6
Members at present pursuing studies in science	51



## TRAINING IN LAW.

*Law degrees held by members of the examining corps.*

Master of laws (L. L. M.)	43
Master of patent law (M. P. L.)	58
Bachelor of laws (L. L. B.)	130
Members of the bar, United States Supreme Court, District of Columbia Court of Appeals, District of Columbia Supreme Court, or other jurisdictions	146
Members who have completed two years' law school work and plan continuation of their studies.	106

In considering the above showing, it should be taken into account that at present there are a large number of temporary appointees in the grade of fourth assistant examiners who have not completed their scientific studies nor entered upon the study of law. If all appointees were permanent the showing would be materially improved.

## QUALIFICATIONS REQUIRED FOR APPOINTMENT TO THE EXAMINING CORPS.

The position of fourth assistant examiner is filled under the law by appointment of eligibles certified by the Civil Service Commission on the results of competitive examinations held by it from time to time—usually at the rate of four each year—open to all citizens of the United States who are 20 years old or more. The examination may be taken in any one of several cities in each State and also in Porto Rico and Hawaii. The rule as to the quota from each State is waived as to this examination.

The examination is one of the most difficult given by the commission. It covers the following subjects: Mathematics (through calculus), mechanical drawings, French or German, technics (covering the general field of mechanics, mechanic arts, industrial arts, and processes and applied chemistry), experience, chemistry, civil engineering, electrical engineering, mechanical engineering, and physics. Five of these subjects are selected by the candidate, which must include mechanical drawings, French or German, and technics. The passing mark is a general average of 70 per cent.

A specimen examination, given in February, 1918, is appended, to show the character of the questions asked in each subject. Notwithstanding the acknowledged difficult character of this examination, there is no disposition on the part of the Patent Office to urge a lowering of the standard thereof. The requirements of the work of examiners are so exacting that it is felt the corps must be made up of men of a caliber to pass this examination. Inventions are frequently highly technical, and highly educated men are indispensable in the intelligent handling of the same.

There is and has been great difficulty in securing enough eligibles to fill the vacancies in the corps constantly occurring. In the years 1916, 1917, and 1918 15 examinations were held by the Civil Service Commission; 784 persons took these examinations, and 147 passed the same—18.75 per cent of those taking it. Not all who passed accepted appointment, so that this number of eligibles was further reduced. Their reason for not accepting appointment was almost invariably the offer elsewhere of more salary.

This dearth of eligibles has compelled the office to make temporary appointments in the grade of fourth assistant, to persons having in some degree the qualifications desired, and who have continued studying with the object of passing the examination. Since October 1, 1917, 105 temporary appointments have been made. Of these, 31 have passed the examination since their appointment, and been enrolled as permanent members of the corps.

But this plan is only a makeshift; appointees with only a portion of the necessary qualifications must always be limited to the handling of simple inventions. Unqualified to do all kinds of work, their sphere of usefulness is limited and they can never fill the higher grades.

A proper increase in the salaries of the examining corps will induce persons of high technical training to take the entrance examination, which they should easily pass. Instead of 18 to 19 per cent successful candidates, the figures would easily be 80 to 90 per cent, and there would be no lack of eligibles.

Your chairman has also requested me to furnish the committee with a statement so formulated as to enable a ready comparison to be made of the numbers

of employees and the salaries assigned them in all of the various positions in the Patent Office as provided for by existing law and as proposed by H. R. bill 7010, which your committee has under consideration. I offer the following statement in compliance with this request:

	Present force.			Proposed.			In-crease.	De-crease.
	Num-ber.	Salary.	Total.	Num-ber.	Salary.	Total.		
Commissioner.....	1	\$5,000	\$5,000	1	\$7,500	\$7,500	\$2,500	.....
First assistant commissioner.....	1	4,500	4,500	1	6,000	6,000	1,500	.....
Assistant commissioner.....	1	3,500	3,500	1	5,000	5,000	1,500	.....
Chief clerk.....	1	3,000	3,000	1	4,200	4,200	1,200	.....
Law examiners.....	5	2,750	13,750	7	4,200	29,400	15,650	.....
Class examiners.....	1	3,600	3,600	1	4,200	4,200	600	.....
Examiners in chief.....	5	3,500	17,500	5	5,000	25,000	7,500	.....
Interference examiners.....	2	2,700	5,400	2	4,200	8,400	3,000	.....
Examiner trade-marks and designs.....	1	2,700	2,700	1	4,000	4,000	1,300	.....
First assistant examiner trade-marks and designs.....	1	2,400	2,400	1	3,300	3,300	900	.....
Second assistant examiners trade-marks and designs.....				2	2,700	5,400	5,400	.....
Third assistant examiner trade-marks and designs.....				2	2,200	4,400	4,400	.....
Fourth assistant examiners trade-marks and designs.....				6	1,800	10,800	10,800	.....
Assistant examiners trade-marks and designs.....	6	1,500	9,000					\$9,000
Principal examiners.....	45	2,700	121,500	50	4,000	200,000	78,500	.....
First assistant examiners.....	90	2,400	216,000	150	3,300	495,000	279,000	.....
Second assistant examiners.....	90	2,100	189,000	150	2,700	405,000	216,000	.....
Third assistant examiners.....	90	1,800	162,000	125	2,200	275,000	113,000	.....
Fourth assistant examiners.....	90	1,500	135,000	125	1,800	225,000	90,000	.....
Financial clerk.....	1	2,250	2,250	1	2,500	2,500	250	.....
Librarian.....	1	2,000	2,000	1	2,700	2,700	700	.....
Chiefs of divisions.....	8	2,000	16,000	8	2,500	20,000	4,000	.....
Assistant chiefs.....	3	1,800	5,400	8	2,100	16,800	11,400	.....
Translator.....	1	1,800	1,800	1	2,000	2,000	200	.....
Assistant translator.....				1	1,600	1,600	1,600	.....
Private secretary.....	1	1,800	1,800	1	2,000	2,000	200	.....
Clerks:								
Class 4.....	9	1,800	16,200	22	1,800	39,600	23,400	.....
Class 3.....	9	1,600	14,400	33	1,600	52,800	38,400	.....
Class 2.....	17	1,400	23,800	100	1,400	140,000	116,200	.....
Class 1.....	135	1,200	162,000	125	1,200	150,000		12,000
Clerks.....	91	1,000	91,000	100	1,000	100,000	9,000	.....
Draftsmen.....	3	1,200	3,600	1	1,800			.....
Do.....				3	1,600	6,600	3,000	.....
Do.....	4	1,000	4,000	3	1,400	4,200	200	.....
Copists.....	90	900	81,000	40	900	36,000		45,000
Do.....	30	720	21,600					21,600
Messengers.....	3	840	2,520	3	840	2,520		.....
Assistant messengers.....	33	720	23,760	33	720	23,760		.....
Laborers.....	13	600	7,800	13	660	8,580	780	.....
Examiners' aids.....	45	600	27,000	50	600	30,000	3,000	.....
Copy pullers.....	24	480	11,520	24	600	14,400	2,880	.....
Total.....	951		1,413,300	1,202		2,373,660	1,047,960	87,600
Net increase.....							960,360	

Following as I do at the very end of a long line of addresses made by the distinguished gentlemen who have been discussing these bills with the committee for four days, it is not very difficult for me to perceive the limits beyond which I, as chief clerk in a mere bureau of a great department, will not be expected to pass. I note that the committee desires and expects that I shall confine my remarks mainly to the subject of conditions as they exist in the Patent Office at this time. It is not my intention to do otherwise, and I hope that I may not disappoint the committee in this expectation. Moreover, I desire to be particularly careful not to make an overstatement in regard to any fact to which I may refer. I prefer to have my statement appear conservative, and in order that I may bar myself against any temptation to become extravagant, I will give hostages in advance by inviting the committee to check and correct me if I wander from the pathway of truth, and I cordially and earnestly invite the committee, as a whole or as individuals, to visit the Patent Office at

any time convenient to it and investigate for itself the basis of the statements I may make.

I trust, however, that the committee will indulge me for just a few moments while I venture to make reference to the bills which deal with the establishment of the proposed court of patent appeals and the separation of the Patent Office from the Interior Department.

And, first, with regard to the bill which proposes to establish a court:

I can not, of course, hope to add anything of substantial value to what has already been said here on this subject by many men infinitely better acquainted with it than I. However, I shall be glad to report to the committee that the examiners in the Patent Office have individually and collectively given careful consideration to this bill, and that, if not unanimously, at least by a large majority, they reached a conclusion favorable to it. One consideration more than any other I think led them to that conclusion, namely, that if we should obtain this court of patent appeals, we should probably have again, as we formerly had when the Supreme Court of the United States regularly took appeals in patent cases a line of decisions by the court of last resort which all would accept as fixing the law of patents in so far as matters considered and decided by such court were concerned. The fact that the court promised a means of giving a finality to decisions made in patent cases seemed to the examining corps a great desideratum, and to offer a sort of anchor to which they might safely tie and ride out in security the storms of arguments and criticism by which they are continually assailed. The examiners thought also that such a court would exercise a simplifying, unifying, and stabilizing influence upon the practice and procedure in the Patent Office itself, and that there is room for improvement in this respect. They also gave consideration to the question of the selection of the personnel of this court as provided in the bill. The examiners thought that it might possibly have been better had the bill provided that at least three of the associate judges should be drawn from fields occupied by men who are primarily distinguished for their technical and scientific attainments—men who should possess also, of course, such legal training and experience as would enable them to function as members of a great court of this character.

The examiners thought that if the personnel of the court could be balanced in this way between distinguished scientists and engineers who were also lawyers, on the one hand, and distinguished lawyers who had had experience as judges, on the other, the court would be possibly stronger in that under special circumstances some of its members were likely to be qualified to uphold the hands of others who when facing special problems might be encountering difficulty. Personally, if I might venture my own opinion after hearing what has been said by members of the committee with reference to the present overburdening of the courts of the country with pending litigation, I should say that it might not be a bad plan to provide for this court without any reference whatsoever to other existing courts and to utilize the same agencies for securing these judges which are now employed for securing other Federal judges, with the possible injunction in the statute that due attention in making appointment is to be paid to the scientific and technical attainments of the candidates, as well as to their legal training and experience.

Passing now to the bill which provides for the separation of the Patent Office from the Interior Department, I desire to say just a word about the amendment offered by Mr. Sturtevant with reference to the fee of 10 cents per hundred words which is now charged by the Patent Office under the provisions of the law for all certified copies of its records, whether these records are actually prepared by the officials of the office or not. During the time that these hearings have been going on, a gentleman came to me with the complaint that he had been overcharged by the office in an instance where this particular provision was applied. He had great need for a rather extended copy of an office record and, as many others have done when unable or unwilling to wait for the office to prepare it, he had had his own typist make the copy at considerable expense, since it involved one hundred and fifty-odd pages of typing. It was also accompanied by 29 sheets of drawing which he had had made at added expense.

These papers were submitted to the office with a request for the usual official certificate that they were true copies. All the office had to do to furnish such certificate was to turn the papers over to two ordinary clerks who could compare them with the original office records and then to fill in the blanks of the



one page of the certificate to be signed by the commissioner. It cost the office in salaries paid to officials concerned in the work not to exceed \$15 up to the time the certificate was attached and ready for delivery, and yet the charge which the office made in this case was \$560. This gentleman thought that to add such a charge as this to work which he had already had done and paid for at considerable expense was unreasonable and unfair. I told him, however, that the Patent Office was helpless under the law as it existed. Section 4934, Revised Statutes, provides in language which has been interpreted by the Solicitor of the Interior Department under a decision rendered October 31, 1914, that all certified copies of office records must be charged for at the rate of 10 cents per hundred words. The commissioner had issued an order based upon this decision which leaves no discretion to any other official of the office as to the amount of charge to be made. I think that the charge as required by law is unfair and unjust and operates as a discouragement to those inventors and a hardship upon those attorneys who are compelled to pay it. I think the committee would do well, if it does not agree with the other provisions of this bill, to at least amend the statute in the manner suggested by Mr. Sturtevant in this connection. I may say also that instances of overcharging for work of this kind are not rare, although examples where the charge reaches such a large figure as in the instance I have cited are not frequent. At any rate, if the existing law can not be changed the Patent Office ought to be provided with sufficient competent clerks and typists to enable it to promptly fill orders for copies of the records so that it may actually do the work which others now find it necessary to do for themselves and for which it nevertheless exacts the same fee as though it had done it itself.

The chairman of this committee has asked the question as to what advantage, if any, would result from the separation of the Patent Office from the Interior Department and the making of the Patent Office into a separate and independent bureau or institution. He has been told that such an arrangement would be a means of securing recognition of the great part which the Patent Office plays in the industrial upbuilding of the country; that its needs would be more readily recognized and met; that its prominence before Congress and the country would be enhanced; and that the dignity of service in it would be increased until those who serve there would attach more importance to and take more pride in their work and the positions they fill in the Government's service. From the remarks of the chairman, however, I have gathered that he is of the opinion that the reasons so given may not be regarded as sufficient to justify the proposed change in the status of the Patent Office, and he has asked more than once what material advantage not now realized would accrue to the public or to the inventors of the country if the Patent Office were put on the independent basis for which this bill provides. I know that it may appear presumptuous in me to attempt to give a different answer from those which have already been advanced, and I would have it distinctly understood before proceeding further that what I am about to say is only my own individual opinion. I believe that if the Patent Office were made an independent bureau it would not be long before the officials at the head of it would be found devising ways and means for increasing its utility and bringing about a condition under which the amount of inventing that is now done in the country would be multiplied perhaps many folds. This, it seems to me, could be done by devising some means for utilizing the expert knowledge of the examiners in getting before inventors the prior art in the lines in which they are interested before they have actually been put to the expense of preparing and filing applications, which are now demanded before the office gives any consideration to the merits of proposed inventions. Also, further encouragement and assistance could be given to inventors by having the experts of the office sent into the industrial centers where inventions largely originate and having them give lectures before the men working along lines belonging to their respective arts, which would set the men to thinking and advise them in advance as to the nature of patents and how to obtain them.

The question might well be asked as to why it is necessary to separate the Patent Office from the Interior Department in order to attain these ends. Possibly it is not necessary, but the fact remains that for a hundred years the office has been under one department or another, and not much advance along these lines has been attained. It seems to me that it would be a natural thing for the office, if made independent and headed by men who were desirous of increasing its field of usefulness, to strive along the lines I have indicated, or others, to build up its business by increasing the number of inventions made.

I turn now to the bill which provides for increasing the force and salaries of the officials of the Patent Office, and I desire, first of all, to speak of the examiners and to point out to the committee that a sharp line of demarcation must be drawn between the examining corps of the Patent Office and its clerical corps and the clerical corps of almost any other office or bureau of the department.

The work of examining an application, as has been frequently pointed out here, is not a mere matter of clerical routine—doing over and over again substantially the same thing. The examiner, to be sure, does reexamine many times the same patents which constitute his art, but he is always doing it with a new problem before him; he is comparing them with a new construction, process, or article, and he is looking at them, as it were, constantly from a different angle. As he turns over the patents with his hands, in making searches, his mind must be constantly alert and in action. He must make decisions quickly. This he may do when the prior art, as he turns to it, appears very obviously remote and irrelevant; but as references are discovered which more and more closely resemble the invention of the application he has under consideration, more and more difficulty is encountered in reaching the conclusion that he must reach.

The matters he must decide, as you have been told, are very similar to those which the judges of the courts decide, and the man without proper educational qualifications, training, and experience can hardly do this work satisfactorily. The examiners of the office, to be efficient, must have that kind of knowledge possessed by engineers and scientists and also by lawyers and jurists. A number of the gentlemen who have appeared before this committee have been inventors, and they have told you of their very valuable inventions and the kind of work which they desire that the Patent Office should do in examining their applications and granting their patents on these inventions. It is, after all, a question of the kind of service which is desired and which should be provided for—awarding patents for new and useful inventions and safeguarding the rights of the public against unlawful and undeserving awards. It would never be possible to increase the force sufficiently to do the work with absolute perfection, but certainly a condition has now been reached in the office when an increase, and a substantial one, in the examining corps must be furnished if the work is to be done in the manner in which these inventors have indicated they desire it to be done, and I have no doubt that they have voiced the sentiments of all of the inventors in the land in this respect. I can testify from experience as an examiner and from observation of the work done by many other examiners that at the present time and for a long time past there has been too much speed in the work of examination to make the results of the examiners' efforts reliable.

The men generally say that in order to examine the required number of applications, it is necessary for them to cut corners in making their searches—to omit consulting analogous arts which, if they had more time, they would desire to consult with the expectation of finding valid references, and this means that they are increasing the risks of granting invalid claims. In many of the divisions the work is so pressing that the foreign patents coming in are not classified and placed with other patents available for search until they have been in the office for a long time; sometimes months or years have elapsed. In very many instances, publications would not be consulted at all, which ought to be carefully read before applications are allowed. Time is no longer afforded for studying the arts apart from the actual work of examining an application. This was not so even a few years ago, when examiners very much more frequently than now were given to the reading of patents merely with a view to arming themselves with knowledge to be utilized in making future searches and not merely in connection with the particular application which they might have before them. The men are not responsible for this situation. The prior art is continually multiplying out of proportion to the increase in force. The number of applications received is in-

creasing rather than falling off, and the public is ever demanding that prompt action upon the applications they file shall be given. No commissioner who has ever headed the office can hold out against this demand—directing his men to do their work so well as to be reasonably satisfied, irrespective of the promptness with which the work of the office is done. The only practical remedy is to increase the force of examiners until they can cope reasonably well with the work that comes before them, and I can only say, in addition, that the situation in the Patent Office at this time is such that a very substantial increase in force is necessary to attain that result.

With regard to the salaries paid the examiners, I ask the indulgence of the committee to make this statement with reference to my own case, because it is somewhat typical of the experience of the examiners who remain in the office for any considerable period.

I came into the office February 14, 1902, at a salary of \$1,200. I had not been one of those fortunate men who were described here as having had thousands of dollars spent upon their education by their parents. I was born and reared on a little farm in northern Pennsylvania. My parents were poor; my father had practically been denied the privileges of an education, and my mother had only sufficient to enable her to teach a rural school. Nevertheless they gave me great encouragement to study, and having had a normal taste for learning, I was able with their aid to complete a high-school course, and then through my own efforts, to earn and borrow sufficient funds to complete a course in college. I spent the first 25 years of my life in this manner and came to the Patent Office considerably in debt, and, as I say, at a salary of \$1,200. Added to the circumstances surrounding my case are the facts that my mother became an invalid for many years and my father's financial condition did not improve. I had a home to establish and a family of my own to provide for, as well as obligations elsewhere which I would not for a moment consider avoiding, irrespective of the extent of sacrifice involved. So I have stayed in the Patent Office for a good many years. Perhaps so long that I have been classed among those who have been regarded as too timid to leave or too incompetent to do so.

During my 18 years of service in the office, I have advanced through the several grades at about the normal rate of the average examiner, recently attaining the position of chief clerk at a salary of \$3,000, which is slightly more than that allowed to primary examiners. I think that, measured by its purchasing power, my present salary is possibly worth as much as \$1,700 or \$1,800 was then worth at the time I entered the office in 1902. Naturally I am inclined to think that this is not quite a fair reward for the effort I have expended and the work I have done. I cite the instance merely as being typical of the cases of many other employees in the office, and particularly in the examining corps, because I know that many of them have started life largely on their own responsibility and have been forced to retain the positions they have held in the office by circumstances largely beyond their control. Men who have not been so unfortunate in these particulars have frequently resigned. The very best men are, of course, those who are most likely and who do most frequently leave the office for outside employment at increased salaries, and such procession of men through the office and into the outside world has been increasing in size during the last year or so. The number of men who went into the military service and who have returned to this country following the armistice and who have declined to be reinstated in the office is quite surprisingly large. The loss to the office in the matter of experience and knowledge of the good men who leave it is very great, for it takes a long time to teach a man an art so that he can handle it with facility and in a reliable manner, and a good deal of experience in the office is necessary before he can be trusted



to act upon applications on his own responsibility. When he has gained such knowledge and had such experience, he is missed for a long time when he leaves.

I would not care to attempt to fix upon the exact scale of salaries that should be adopted for employees of the Patent Office, being one of them, but as showing that these salaries proposed by this bill are not unreasonable, I call attention to the fact that within two or three months one principal examiner, one first assistant examiner, seven second assistant examiners, four third assistant examiners, and one fourth assistant examiner have resigned from the office, and that they have not received less than provided by this bill, but, on the average, considerably higher pay in their new positions.

Now I turn to the clerical corps of the Patent Office of which I have immediate charge. This bill proposes an increase of 37 clerks and a transfer of 10 clerks at \$1,200 to higher positions; some 50 clerks at \$900 to higher positions; the abolition of 30 clerks at a grade paying \$720 per annum. I have no doubt that the office needs every one of the additional clerical employees called for under the new scale of salaries proposed. I have in my mind at this time the precise assignments which I would give to every one of the additional persons called for if they were available to the office for appointment to-day, and I know that their services could be utilized to advantage in the places to which I would assign them. I should like briefly to picture to the committee conditions of the clerical divisions of the office in order that some idea may be gained of the results that follow from lack of adequate clerical force and insufficient provision otherwise to properly carry on the work of the office.

In the public search room, for example, to which an inventor, or attorney, first resorts when he undertakes to determine whether it would be worth while to file an application on a new invention, there is a very greatly crowded condition. There is no additional space available at this time in which to place the additional cases in which are stored the copies of patents which the public use in making searches. Copies of these patents are increasing from the current issues at the rate of between 800 and 1,000 weekly, and through the action of the Classification Division in providing cross references in analogous classes and subclasses, at even a greater rate. A large number of the patents have, in the course of time, become displaced from the groups or bundles in which they belong and crept into other places or disappeared altogether. Many of them are incomplete, either in that the drawing or specification are missing. This is not a condition under which satisfactory or reliable searches can be made. The office ought to have continually at work one or more efficient clerks checking up these search records and seeing that copies are kept in the places where they should properly be found. At the present time, and for a long time, no dependable person has been available to be assigned to this work, and such work as has been done has not been followed up carefully to see that copies that were detected as wanting have been replaced and properly filed.

Then to pass to the scientific library: Here the librarian is assisted by a translator of ability, and two others having some knowledge of foreign languages, who are devoting most of their time to reading foreign patents sufficiently to assign them to the divisions to which they belong; a number of ladies who have either attained or are rapidly approaching the maximum age limit for retirement that has thus far been set, who prepare patents for binding and do other work incident to the maintenance of a library; a messenger boy, who is doing clerical work, and acting as typist, and a number of young colored men who have for some reason preferred to find service in the Patent Office than elsewhere. Adequate provision has not been made for the purchase of the necessary publications and books which the library ought to possess and seldom, if ever, for purchasing duplicate copies of publications which the examiners ought to have available in their divisions for the purpose of classification and reference. The library has in its possession 450,000 copies of British patents which it obtained for the purpose of having them bound in classified order rather than in the order in which they issued, in order to facilitate the work of searching the patents of Great Britain. Some of the later issues of these patents have been classified and placed in boxes where they are used by attorneys making validity searches. By far the largest part of them have not been classified at all, and certainly one or two truck loads are now down in a miscellaneous heap in a dark room in the basement of the building where they were put after a long period of storage in the District Jail. I do not know that funds will ever be provided for binding these patents, but I do know that if they could be bound they would be of substantial use to attorneys and the public in making searches,

and I also know that in order to arrange them for binding, additional help would have to be provided for the library.

In this connection I should like to call attention to another experience of the office in the matter of procuring desirable records. In 1892 a representative of the office was sent to Berlin for the purpose of obtaining a complete set of German patents issued up to that date, in order that these might be classified and bound, and also to arrange that German patents that might subsequently issue should be forwarded to this country and classified and bound. The German Government agreed to furnish these copies of patents for this purpose. The transmission of current issue to this country was at once instituted and they have since been continuously received, and Congress has provided an appropriation with which they have been bound after being classified. The German Government also agreed to furnish copies of all the patents it had issued up to the time when the arrangement was concluded. It pulled these copies from its files and bundled them up ready for shipment. Then a question arose of securing six or seven thousand dollars to pay for the transportation. The money was not forthcoming and the German office naturally held the patents until it should appear. I am informed some 20 years passed by and then a citizen of Japan, learning that Germany was holding the patents under the circumstances I have mentioned, made arrangements with the patent office in Tokio to advance the funds necessary to pay for their transportation, and they were turned over to the Japanese office. No one can now say when this country will, if ever, be provided with this very valuable set of patents. I cite these matters merely to show that the office has suffered from neglect.

In the division which retails copies of patents, which are required by attorneys in amending their applications, by litigants in court cases, and by inventors in their work of devising improvements, and manufacturers who need them in large numbers in instituting new lines of business, the working force which consists of 75 people, is insufficient to render satisfactory service. At the present time a mail order for a copy of a patent received by the office on the 3d of July has just been handed, in its due order, to the boy who has to select the copy from the file and will be mailed in about three days. If the office were functioning properly, the time involved in this transaction should not exceed three days at the most. But suppose that the boy who selects the copy finds that the bulk is exhausted, then in the normal course of events under which the office is now operating it would be practically 90 days before the copy could be reproduced and mailed. This, of course, is a very unfortunate situation for men who must have copies promptly in order to amend their applications to save them from abandonment, or for incorporating in their briefs to be filed before courts, or for consultation before they launch upon new lines of industry. The copy division has orders calling for whole classes or subclasses of patents, amounting at the present time to approximately 150,000 copies, and these orders, now unfilled, date back substantially three months from this time. Recently the numbers of copies which have been ordered have increased very largely because manufacturers have come, more and more, to demand that all the patents which belong to a class or subclass be furnished them, rather than simply a few which are found to most nearly resemble the invention in which they are interested.

The office has not had adequate clerical force or appropriations to enable it to reproduce copies of patents which were about to be exhausted or as soon as they became exhausted. Its practice has been to wait until an order for a copy of patent was presented, and then if it was found to be exhausted, to order reproduction of that particular copy. This is a poor way of doing business, as will be readily appreciated if one will imagine the result should an ordinary retail store attempt to operate on the same principle. For many years the appropriation out of which the expense of reproducing exhausted copies has been paid has been uniformly \$140,000. That appropriation was so fully used up during the last year that it was necessary to hold back orders for copies, which will cost at least \$10,000. These orders had to be carried over into the appropriation for this year, which appropriation has been cut \$5,000 under that heretofore allowed. Under these circumstances it has become necessary to ask for a deficiency allowance, which will surely be needed long before the end of the year, and without which the office will be laboring under great embarrassment.

In the Assignment Division, where the work is about 72 days behind, there are on hand 6,595 deeds. This is practically double the amount of work in that division a year ago. It is an unusual situation arising out of the activities of the

Alien Enemy Property Custodian in seizing and selling large numbers of enemy-owned patents. Additional clerks have been drawn from any part of the office where they could be found and sent to assist in this division with its extra burden. An idea of the magnitude of some of the work may be gathered from a statement that one deed recently received from the Alien Enemy Property Custodian transferred 5,416 patents, applications, trade-marks, and copyrights, containing 496 pages and 106,971 words. In order to index, digest, and record this one deed, the time of from two to five clerks has thus far been continuously employed for two months, and probably a goodly portion of another month will be required to finish the work. This is but one of many large deeds which the division has received along with its normal work.

Many other divisions of the office could be reviewed, and similar conditions would be found to exist, due not entirely but to a large extent to deficient force. But the deficiency in the clerical force is not alone in numbers. Another and very real difficulty arises from the fact that for the salaries paid really competent people are unwilling to come to the Patent Office. Several years ago it was customary to employ typists and stenographers in the grade of \$720 per annum and to promote them to \$1,200, which was practically the maximum. The salary scale in the office has not changed since that time, and stenographers and typists cease to be available who would accept an entrance salary at the old figure. The Civil Service Commission could not provide them, and it became necessary for the Patent Office to pick them up wherever they could be found.

I visited some of the high schools of the city and wrote to the business colleges stating that positions were open in the office for stenographers and even typists without a knowledge of stenography, at the salary of \$720 per annum, and that these positions could be temporarily filled with permission of the Civil Service Commission without examination. In this way I succeeded in obtaining a few persons who had an elementary knowledge of typing. Through these we got in touch with others who were living at home and who were desirous of learning to become typists, having perhaps had a very small start in that way, and so the grade of copyist at \$720, to which I refer, has been kept filled with boys and girls almost invariably too young to be admitted to the civil-service examinations and who have been simply learning to be typists at the Government's expense. Some of them, after a good many months of service, have become quite efficient, but as soon as they reach the requisite age I have no doubt they will take the examination and then, beyond question, they will be certified to some other bureau where beginners are paid \$1,100 or \$1,200 as is customary in almost all branches of the Government that have been created since the war began. We now appoint our typists and stenographers at \$900 per annum, never higher, because to do so would work an injustice to those we have already obtained. The qualifications of the persons we get at this salary are not, with rare exceptions, what could be desired. Generally they are persons who for some reason or another have discounted their own worth and have stated in their examination papers that they will accept a salary much lower than is ordinarily paid for persons who can pass the examination they take. Usually they are persons who barely passed the examinations at all. The Civil Service Commission has not always been able to furnish persons in sufficient number to accept even this salary and we have been met continually with applications for transfer and resignations in order that those who come to us may secure employment elsewhere at increased remuneration.

Appreciating some time ago that the salaries paid the clerical force in the Patent Office were manifestly lower than those paid in other bureaus of our department and in other departments of the Government service, it occurred to me that it would be possible to draw to scale certain diagrams which would show graphically just how the salaries paid in the different bureaus compared with those in the Patent Office. Accordingly, a number of charts were prepared, based upon the appropriation bill for the year ending June 30, 1917, and showing the number of clerks in classes 1, 2, 3, and 4, paying respectively \$1,200, \$1,400, \$1,600, and \$1,800 per annum, in all of the bureaus selected, including the Patent Office. When these charts were compared with that showing the condition in the Patent Office it was found that the chances of promotion of a clerk of class 1, receiving \$1,200, in the Patent Office was very much less than that of any of the other bureaus cited. In order to make the comparison more evident and easier, 12 of the old bureaus which were regarded as being most nearly analogous to the Patent Office in character of work done by the clerks were selected and the numbers of people in each of the grades of classes 1, 2, 3, and 4 in each



of these bureaus were added together and averaged by dividing by 12. In this way a theoretical composite bureau was produced and a chart drawn to the same scale that had been previously used was prepared showing how such an average bureau would be constructed as regards clerks belonging to these classes. This chart and a similar one for the same class of clerks in the Patent Office were placed alongside of each other on the same sheet. This chart is one of the exhibits which the Commissioner of Patents offered during his remarks. It shows that in the Patent Office there are 135 clerks of class 1, 17 clerks of class 2, 9 clerks of class 3, and 9 clerks of class 4. In the composite office there are 110 clerks of class 1, 74 clerks of class 2, 41 clerks of class 3, and 31 clerks of class 4.

A mere glance at this chart will show how much inferior are the chances of a \$1,200 clerk in the Patent Office of securing a promotion to a higher salary than is that of the average clerk of class 1 in the composite office. In the Patent Office the chances of a \$1,200 clerk being promoted to \$1,400 may be read by the fraction 17 over 135; in the composite office the chances of a \$1,200 clerk for promotion to \$1,400 may be read by the fraction 74 over 110. The numerator is multiplied by 4 and the denominator is reduced by practically 25 per cent. In the Patent Office the chances of a \$1,200 clerk being promoted to \$1,600 may be read by the fraction 9 over 135; in the composite office by the fraction 41 over 110. In the Patent Office the chances of a \$1,200 clerk being promoted to \$1,800 may be read by the fraction 9 over 135; in the composite office by 31 over 110. This chart seems to be instructive in showing that the salaries paid clerical employees in the Patent Office are much below those paid in other offices of substantially equal antiquity in other branches of the Government service. When comparison is made between the salaries paid the clerks in the Patent Office with those paid in lump-sum appropriations and otherwise in bureaus and offices recently created, the contrast becomes ever more pronounced.

More might be said or could be said with reference to the salaries at present paid the clerks in the Patent Office. The number of persons who receive salaries of \$720 or less is excessive and the qualifications possessed by persons who will accept such salaries under present living conditions are not only unsatisfactory but almost menacing. For instance, someone of the young copy pullers or examiners' aids in the Patent Office, receiving all that that particular individual was worth or more, but a mere pittance for an employee who was qualified and capable of doing the work he was supposed to do in a dependable way, recently set the office on fire by carelessly throwing a lighted match into a room filled with copies of patents. Fortunately, the fire was discovered almost immediately and extinguished. Had it happened that the employees had been leaving at the time the fire was started, it is impossible to foretell the extent of the disaster that might have resulted. I cite this instance merely to emphasize a fact that is true of the situation throughout the Patent Office, including the examining corps, namely, that if the employees are to continue to be paid under the old scale, it is to be expected that those who accept the salaries so provided will not measure up to the requirements which the office work rightly demands.

M. H. COULSTON, *Chief Clerk.*

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[United States Civil Service Commission. Preliminary sheet.]

#### ASSISTANT EXAMINER EXAMINATION (PATENT OFFICE).

Place of examination ——— (city or town, ——— (State). Date ———.  
Examination No. ———.

#### INSTRUCTIONS TO COMPETITORS.

This examination comprises this preliminary sheet and seven or eight examination question sheets.

Two days of seven consecutive hours each are allowed for the first four subjects (sheets 1 to 6). Subjects 1 and 2 will be given on the first day and subjects 3 and 4 on the second day.

Each competitor must take one optional subject and may substitute an additional optional subject for the subject of experience. Three and one-half hours will be allowed on the third day for each optional subject.

1. Fill out the blanks at the top of this sheet and all other sheets as they are issued to you. Read the instructions at the top of each sheet. Perform all work on these sheets in ink. Spoiled sheets will not be exchanged for new ones. See that you receive all the subjects mentioned below in their regular order.

2. Your time (mentioned above) is reckoned from the moment you receive the first numbered sheet. No allowance is made for time lost while out of the room. Do not leave the room without the permission of the examiner. Should you leave the room while working on a sheet, it will be taken up and not reissued to you. You are not limited to time on any sheet, unless specified on the sheet.

3. Pencil may be used for preliminary work only on the scratch paper furnished by the examiner. When you are through with the scratch paper return it to the examiner.

4. Examiners are forbidden to explain the meaning of, or to make remarks relating to, a question that may in any way assist in its solution. Necessary explanations will be made to the whole class.

5. You are forbidden to communicate with, give to or receive aid from a fellow competitor, and to use helps in any form. Before the examination hand to the examiner any helps that you may have. Evidences of copying or collusion may result in the cancellation of your papers and your debarment from future examinations. Copies of the questions are not to be made or taken from the examination room.

(N. B.—Do not fill the blanks below.)

Subjects.	Averages.	Relative weights.	Products of averages multiplied by weights.
First day, 7 hours:			
1. Mathematics, sheet 1.....		3	.....
2. Mechanical drawings, sheets 2, 3, and 4.....		3	.....
Second day, 7 hours:			
3. French or German, sheet 5.....		3	.....
4. Technics, sheet 6.....		4	.....
Third day, 3½ hours:			
5. Optional.....		4	.....
6. Experience <sup>1</sup> or optional.....		3	.....
Total.....		20	.....
Average percentage.....			.....

<sup>1</sup> Rated on evidence, satisfactorily corroborated, submitted in connection with application and examination Form 1312.

N. B.—Do not fail to answer questions on back of this sheet after all other sheets have been completed.

N. B.—This sheet must be completed by each competitor and at the close of the examination returned to the examiner. All the questions should be fully and specifically answered as the answers may guide an appointing officer in making a selection. Any false statement made by a competitor in answer to the following questions will be considered sufficient cause for the cancellation of his examination papers, or for his removal from the public service in the event of his appointment. The time consumed in answering these questions will not be considered as part of the time allowed for the examination.

Question 1. If now employed, state salary ———, position ———, and by whom employed ———.

Question 2. What is the lowest yearly entrance salary you would be willing to accept? ———.

NOTE.—Entrance to most branches of the service is at the lowest salary, the positions at higher salaries being filled by promotion. The salary of the lowest clerical class, which includes stenographers, typewriters, bookkeepers, etc., varies in different departments, from \$600 to \$1,000 per annum (in certain departments an entrance salary as low as \$480 per annum is sometimes given), but the average entrance salary of stenographers and typewriters is about \$900.

Question 3. Are you willing to accept a position in Washington, D. C? ———, In the city in which the examination is taken? ———. In the vicinity of this city? ———. Anywhere in your own State? ———. Anywhere in

the United States? \_\_\_\_\_. If not, name the State in which you will accept a position \_\_\_\_\_. In Alaska? \_\_\_\_\_. In Hawaii? \_\_\_\_\_. In the Philippine Islands? \_\_\_\_\_. In Porto Rico? \_\_\_\_\_.

NOTE.—While separate examinations are usually held for positions in the localities mentioned, competitors are requested to furnish the information, to be used in case there should be a shortage of eligibles for any locality.

Question 4. Would you be willing to accept appointment to a position of a temporary character for a limited period, under the conditions mentioned below? \_\_\_\_\_. If so, at what salary? \_\_\_\_\_.

NOTE.—A temporary appointment may terminate at any time and can not continue beyond six months in one department. After serving one temporary appointment, a person may be again considered, if still eligible, for similar employment in other departments. Acceptance of temporary appointment does not affect, either favorably or unfavorably, an eligible's chances for permanent appointment.

Question 5. What experience have you had as stenographer and typewriter? \_\_\_\_\_.

Question 6. State what experience, if any, you have had with adding or computing machines or with any other mechanical devices for the performance of clerical work, giving the make of such machines or devices. \_\_\_\_\_.

Question 7. If you speak any foreign language, name them \_\_\_\_\_ and give extent of experience as a translator in each. \_\_\_\_\_.

Question 8. State fully the extent of your education, the kinds of schools or institutions you have attended, and the course of courses of study you have pursued, either personally or by correspondence. State also the number of school years and approximate dates of attendance at each school or institution. \_\_\_\_\_.

Question 9. Have you made special preparation for this examination by attending any school or educational institution or by taking a course of instruction by correspondence or otherwise from an individual? If so, give the name and address of the school or institution or the individual or the correspondence college or institute, and the length of the course of instruction. \_\_\_\_\_.

Question 10. Identification: What is your sex? \_\_\_\_\_ (male or female). Your age? \_\_\_\_\_. Your height without shoes? \_\_\_\_\_ feet \_\_\_\_\_ inches. Your weight? \_\_\_\_\_ pounds. The color of your eyes? \_\_\_\_\_. The color of your hair? \_\_\_\_\_.

NOTE.—When this sheet is handed to the examiner, he should carefully observe the competitor for the purpose of certifying the apparent correctness of the answers to this question, and should place his initials on the line below.

\_\_\_\_\_ (initials of examiner.)

I hereby certify, upon my honor, that the answers to the foregoing questions are true, to the best of my knowledge and belief; that I did not copy from the papers of any competitor or receive any aid whatever from any competitor, or in any other manner during the examination; that I did not permit any other competitor to look over or copy from my papers, and that I did not render any aid whatever to any competitor during the examination.

Examination No. \_\_\_\_\_.

[United States Civil Service Commission. Sheet 1.]

ASSISTANT EXAMINER EXAMINATION (PATENT OFFICE).

Rating, \_\_\_\_\_.

First subject: Mathematics.

DIRECTIONS TO THE COMPETITOR—READ CAREFULLY.

Competitor must fill these blanks: Time commenced, \_\_\_\_\_. Date, \_\_\_\_\_. Examination No. \_\_\_\_\_. Time finished, \_\_\_\_\_. Place of examination (city or town), \_\_\_\_\_, (State) \_\_\_\_\_.

N. B.—Do not write on this sheet. Blank sheets will be furnished for the answers to the questions hereon. Number answers to correspond with numbers of questions.



Write only on the ruled side of the blank sheets furnished.

Number consecutively the sheets of answers to questions hereon, and write in the following space the total number of such attached sheets: Number of sheets, \_\_\_\_\_.

Illustrate by diagrams when practicable. Give work in full and plainly indicate the answers.

Answer any five (and only five) of the following questions. Check thus (✓) those answered.

Question 1. In a certain sequence of four numbers,  $x, y, z, w$ , the first three form an arithmetic series, and their sum is 24. The last three form a geometric series, and their sum is 38. What is the sequence of numbers?

Question 2. Two fractions having  $2+5x$  and  $10+x$ , respectively, as denominators give  $\frac{48(1+x)}{20+52x+5x^2}$  as their sum. (a) Find the fractions. (b) What value must  $x$  have in order that the second fraction shall be three times the first?

Question 3. Prove that the product of two of the sides of any triangle equals the diameter of the circumscribed circle times the altitude upon the third side.

Question 4. If on each of the sides of an angle having its vertex at O, two points, A and B, on the one side, and P and Q, on the other side, be taken such that  $OP:OA=OB:OQ$ , prove that the four points A, B, P, and Q lie on a circle.

Question 5. The lengths of the sides  $b$  and  $c$  of triangle ABC are in the ratio, 7:4, and  $c$  is 38.4 inches smaller than  $b$ . Angle A is an acute angle such that  $\tan A:\sin 2A=8:5$ . Find the area of triangle ABC to the nearest square inch.

Question 6. (a) A flagstaff  $h$  feet high stands on the top of a tower. From a point in the plane on which the tower stands the angles of elevation of the top and bottom of the flagstaff are observed to be  $\alpha$  and  $\beta$ , respectively. Prove that the height of the tower is  $\frac{h \sin \beta \cos \alpha}{\sin (\alpha - \beta)}$  feet. (b) Find all values of  $\theta$  between  $0^\circ$  and  $360^\circ$  which satisfy  $6 \tan^2 \theta - 4 \sin^2 \theta = 1$ .

Question 7. (a) Show that the parabolas  $x^2=ay$  and  $y^2=2ax$  intersect upon the folium of Descartes,  $x^3+y^3=3axy$ . (b) Prove that  $2 \tan^{-1} \frac{3}{8} - \csc^{-1} \frac{5}{8} = \sin^{-1} \frac{33}{65}$ .

Question 8. Find the coordinates of the center of the circle circumscribing the triangle whose vertices are (1, 1), (3, -1), and (-1, -5).

Question 9. (a) Find the number that exceeds its square by the greatest possible quantity. (b) Find the value of  $x$  when the function  $2x^2-4$  is decreasing five times as fast as  $x$  is increasing.

Question 10. (a) Evaluate  $\lim_{x \rightarrow \infty} \frac{x^3}{e^x}$ . (b) A man is walking at the rate of 5 miles an hour toward the foot of a tower 60 feet high. At what rate is he approaching the top when he is 80 feet from the foot of the tower?

[United States Civil Service Commission. Sheet 2.]

ASSISTANT EXAMINER EXAMINATION (PATENT OFFICE).

Rating:

Sheet \_\_\_\_\_  
Sheet \_\_\_\_\_

Total \_\_\_\_\_

Average \_\_\_\_\_

Second subject—Mechanical drawings. (Three sheets.)

DIRECTIONS TO THE COMPETITOR—READ CAREFULLY.

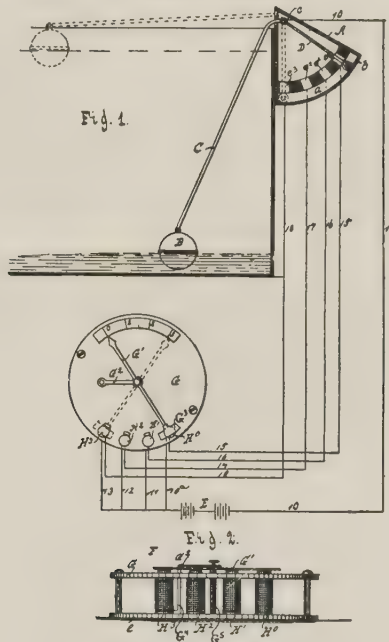
Competitor must fill these blanks: Time commenced, \_\_\_\_\_. Date, \_\_\_\_\_. Examination No., \_\_\_\_\_. Time finished, \_\_\_\_\_. Place of examination, \_\_\_\_\_ (city or town), \_\_\_\_\_ (State).

Number consecutively the sheets of answers to questions hereon and write in the following space the total number of such attached sheets: Number of sheets, \_\_\_\_\_.

Sheets 2, 3, and 4 will be issued to the competitor together. He will be required to select two of these sheets as a part of his examination and return all three sheets to the examiner with his work on the two which he has selected.

Describe (1) the views, (2) the construction, and (3) the operation of the machine shown in these drawings.

MAGNETO ELECTRIC INDICATOR.



[United States Civil Service Commission. Sheet 3.]

ASSISTANT EXAMINER EXAMINATION (PATENT OFFICE).

Ratings:

Sheet \_\_\_\_\_  
Sheet \_\_\_\_\_

Total \_\_\_\_\_

Average \_\_\_\_\_

## Second subject—Mechanical drawings—Continued.

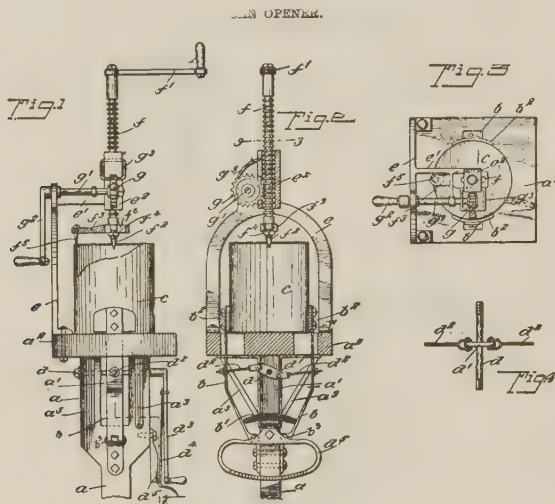
## DIRECTIONS TO THE COMPETITOR—READ CAREFULLY.

Competitor must fill these blanks: Time commenced ———. Date ———. Examination No. ———. Time finished ———. Place of Examination ——— (city or town), ——— (State).

Number consecutively the sheets of answers to questions hereon, and write in the following space the total number of such attached sheets: Number of sheets ———.

Sheets 2, 3, and 4 will be issued to the competitor together. He will be required to select two of these sheets as a part of his examination and return all three sheets to the examiner with his work on the two which he has selected.

Describe (1) the views, (2) the construction, and (3) the operation of the machine shown in these drawings.



[United States Civil Service Commission. Sheet 4.]

## ASSISTANT EXAMINER EXAMINATION (PATENT OFFICE).

## Ratings:

Sheet -----

Sheet -----

Total -----

Average -----

## Second subject: Mechanical drawings—Continued.

## DIRECTIONS TO THE COMPETITOR—READ CAREFULLY.

Competitor must fill these blanks: Time commenced, ———. Date, ———. Examination No., ———. Time finished, ———. Place of examination, ——— (city or town), ——— (State).

Number consecutively the sheets of answers to questions hereon and write in the following space the total number of such attached sheets: Number of sheets, ———.

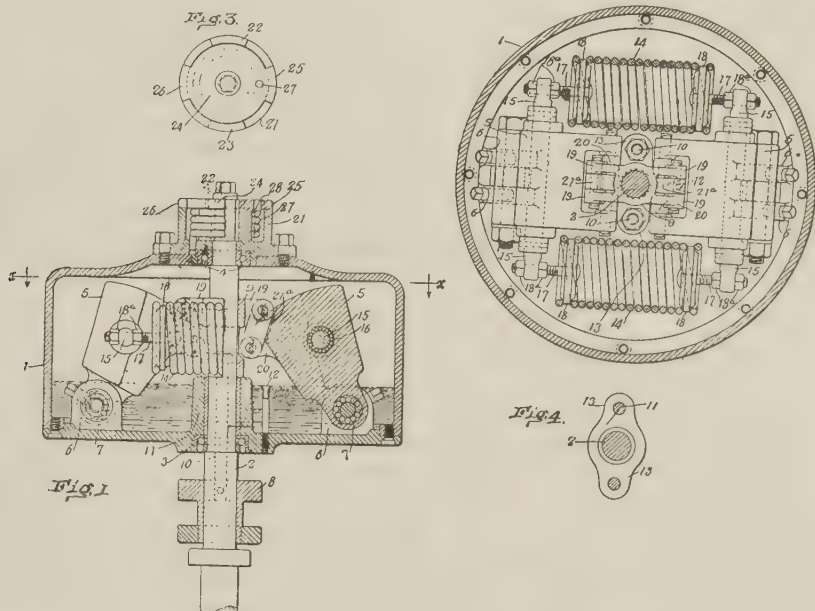
Sheets 2, 3, and 4 will be issued to the competitor together. He will be required to select two of these sheets as a part of his examination and to return all three sheets to the examiner with his work on the two which he has selected.



Describe (1) the views, (2) the construction, and (3) the operation of the machine shown in these drawings.

GOVERNOR.

Fig. 2.



[United States Civil Service Commission. Sheet 5.]

ASSISTANT EXAMINER EXAMINATION (PATENT OFFICE).

Rating: \_\_\_\_\_.

Third subject: French or German.

DIRECTIONS TO THE COMPETITOR—READ CAREFULLY.

Competitor must fill these blanks: Time commenced, \_\_\_\_\_. Date, \_\_\_\_\_. Examination No., \_\_\_\_\_. Time finished, \_\_\_\_\_. Place of examination, \_\_\_\_\_ (city or town), \_\_\_\_\_ (State).

N. B.—Do not write on this sheet. Blank sheets will be furnished.

Write only on the ruled side of the blank sheets furnished.

Make a check mark (V) opposite the extracts selected by you.

Number consecutively the sheets of your translations and write in the following space the total number of such attached sheets: Number of sheets, \_\_\_\_\_.

Make a close translation into idiomatic English of *any two* of the following extracts, either in one language or in both, as preferred.

FRENCH.

(a) Voici comment on procédait pour la fabrication du papier de papyrus: La tige, écourtée de la tête et de la base, était fendue, au moyen d'un instrument tranchant, dans toute sa longueur, en bandes très fines. Cette opération était commencée généralement par le milieu et les deux premières bandes centrales étaient réservées pour la fabrication du papier de qualité supérieure. Il ne s'agit pas, comme certains auteurs l'ont avancé, de l'emploi de l'écorce; elle était beaucoup trop mince, composée de cellules au tissu resserré, chargées de chlorophylle et peut-être avec quelques traces de silice. Les bandes suivantes étaient réservées à la fabrication du papier de qualité inférieure; les deux bandes extrêmes, composées presque exclusivement de l'écorce, devaient être rejetées. Ces bandes étaient réunies côte à côte, sur une table à plan incliné, dont la surface était largement mouillée, en sorte que les côtés adhéraient entre eux. Selon Pline ces bandes étaient humectées avec l'eau du Nil qui seule

pouvait délayer le liquide visqueux des cellules brisées, nécessaire pour faire adhérer les lamelles les unes contre les autres.

(b) La construction des parties en maçonnerie de cet ouvrage d'art n'a pas donné lieu à des travaux spéciaux. Seule la pile de milieu a été fondée dans le lit de la rivière au moyen d'un caisson à air comprimé. On sait en quoi consiste cette méthode, inaugurée en 1859 par des entrepreneurs français et qui, successivement perfectionnée, est aujourd'hui d'un usage général dans tous les pays. On construit un caisson en tôle (ou en bois, comme on le préfère en Amérique) ayant en longueur, largeur et hauteur les dimensions ru massif de fondation qu'il s'agit de construire dans le sol, à une certaine profondeur. Ce caisson est fermé sur ses côtés et sur sa partie supérieure, mais il n'a pas de fond et ses parois latérales sont construites en forme de coins de manière à pouvoir s'enfoncer dans le sol lorsqu'on charge le caisson d'un certain poids. Au-dessus du plafond, les parois latérales en se prolongeant constituent une grande chambre, que l'on remplit au fur et à mesure de maçonnerie ou de béton. La Fig. 74 permet de se rendre compte de la méthode de travail et du fonctionnement de l'appareil.

GERMAN.

(a) Die Kenntniss der dem Wasserdampf innewohnenden Ausdehnungs- oder Spannkraft ist sehr alt. Schon vor Anfang der christlichen Zeitrechnung scheint man einige wenn auch nur höchst unvollkommene Vorstellungen von derselben gehabt zu haben. Die erste Nachricht von der Anwendung des Wasserdampfes zur Erzeugung von Bewegung findet sich in einer Schrift des griechischen Mathematikers und Mechanikers Hero des Älteren, der einen durch Dampfgetriebenen Apparat beschreibt. Eine hohle mit Wasser gefüllte Metallkugel wurde erhitzt; der so entwickelte Dampf strömte aus zwei seitlichen Öffnungen aus und setzte durch Rückwirkung das Gefäss in Umdrehung. Dieser Apparat, der eine praktische Bedeutung niemals erlangt hat, ist nur als eine physikalische Spielerei zu betrachten; ebenso der Apparat des Italieners Giovanni Branca (1629), bei welchem ein kräftiger Dampfstrahl gegen ein Schaufelrad getrieben und letzteres dadurch in Umdrehung versetzt wurde.

(b) Die sicherste Methode, die Bedeutung eines Organs aufzuklären, ist die, zue beobachten, wie sich ein Geschöpf verhält, welches das betreffende Organ eingeblüsst hat. Wüssten wir z. B. noch nicht, welches die Bedeutung unserer Augen ist, so würde uns die Beobachtung von Menschen oder Tieren, welche die Augen verloren haben, sofort dahin belehren, das diese Organe dem Sehen dienen. So sind denn nun auch die Beobachtungen, die man an Tieren gemacht hat, welche das gesammte Grosshirn eingeblüsst hatten, äusserst lehrreich gewesen. Eine Taube kann viele Monate hindurch nach vollständiger Zerstörung des Grosshirns am Leben bleiben. Ein solches Tier kann sich in ähnlicher Weise bewegen, wie eine ganz gesunde unversehrte Taube. Wirft man sie in die Luft, so fliegt sie durch das Zimmer oder setzt sich auf ein Sims oder einen beliebigen anderen Gegenstand nieder. Man kann sich, ohne dass die Taube irgend welche Furcht äussert, ihr nähern und sie ergreifen. Setzt man sie auf eine Stuhllehne, so weiss das Tier, wenn man den Stuhl hin- und herbewegt, durch zweckmässige Neigungen des Körpers und des Schwanzes, wie auch der Flügel, das Gleichgewicht in ebenso geschickter Weise zu behaupten, wie ein unversehrter Vogel.

[United States Civil Service Commission. Sheet 6.]

ASSISTANT EXAMINER EXAMINATION (PATENT OFFICE).

Rating: ———.

Fourth subject—Technics.

DIRECTIONS TO THE COMPETITOR—READ CAREFULLY.

Competitor must fill these blanks: Time commenced, ———. Date, ———. Examination No., ———. Time finished, ———. Place of examination, ——— (city or town), ——— (State).

N. B.—Do not write on this sheet. Blank sheets will be furnished for the answers to the questions hereon. Number answers to correspond with numbers of questions.

Write only on the ruled side of the blank sheets furnished.

Number consecutively the sheets of answers to questions hereon, and write in the following space the total number of such attached sheets: Number of sheets, \_\_\_\_\_.

Illustrate by diagrams when practicable. Give work in full and plainly indicate the answers.

Modern industrial processes and apparatus must be described.

Answer 5 of the following 10 questions:

Question 1. (a) Describe the manufacture of copper wire. (b) Describe the manufacture of one kind of insulated copper wire.

Question 2. Describe the construction and operation of a speedometer.

Question 3. What are the essential differences between (a) a 4-cylinder and a 12-cylinder gasoline engine; (b) the Edison nickel-iron storage battery and the sulphuric-acid-lead storage battery?

Question 4. (a) What is the purpose of ball or roller bearings? (b) Name three types. (c) Discuss the advantages of each.

Question 5. What is meant by each of the following: (a) 3-phase, 60-cycle; (b) ferro-alloys; (c) chassis; (d) heat treatment; (e) nitrogen-filled?

Question 6. (a) What is the source of each of the following: (1) Argols; (2) abaca; (3) alum; (4) amber; (5) copal; (6) oakum; (7) shoddy; (8) spelter; (9) copra; (10) ocher? (b) What use is made of each of these substances? (c) Name three products derived from city garbage.

Question 7. (a) Describe the manufacture of vulcanized fiber. (b) For what is it used? (c) Name three other substances used for the same purpose.

Question 8. (a) What is the purpose of each of the following processes: (1) Sintering; (2) calcination; (3) lead burning; (4) fractionation; (5) desilverization? (b) Describe each process briefly.

Question 9. Describe (a) the construction of any type of calculating machine, or (b) the so-called invisible bifocal lens.

Question 10. (a) What are the physical and chemical differences between printers' ink and writing fluid? (b) Describe the process of manufacture of either product.

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[United States Civil Service Commission.]

#### ASSISTANT EXAMINER EXAMINATION (PATENT OFFICE).

Rating: \_\_\_\_\_.

Optional subject: Chemistry.

#### DIRECTIONS TO THE COMPETITOR—READ CAREFULLY.

Competitor must fill these blanks: Time commenced, \_\_\_\_\_. Date, \_\_\_\_\_. Examination No. \_\_\_\_\_. Time finished, \_\_\_\_\_. Place of examination \_\_\_\_\_ (city or town), \_\_\_\_\_ (State).

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Write only on the ruled side of the blank sheets furnished.

Number consecutively the sheets of answers to questions hereon, and write in the following space the total number of such attached sheets: Number of sheets, \_\_\_\_\_.

Give work in full and plainly indicate the answers.

Express each reaction by means of a chemical equation.

Where atomic weights are not given, use nearest whole numbers.

Three consecutive hours are allowed for this subject.

Answer any eight of the following questions:

Question 1. Illustrate eight of the following by means of formulas or balanced chemical equations wherever necessary: (a) Isomorphous substances; (b) deliquescent salt; (c) endothermic reaction; (d) reversible reaction; (e) isomerism; (f) saponification; (g) asymmetric carbon atom; (h) amphoteric compound; (i) homologues.

Question 2. (a) What weight of calcium carbide (90 per cent pure) must be used to produce 5 liters of acetylene gas at 21° C. and 760 mm. pressure? (b) 100 c. c. of sulphuric-acid solution (sp. g.=1.68), containing 75.5 per cent of H<sub>2</sub>SO<sub>4</sub> by weight, exactly neutralized 539.3 c. c. of KOH solution (sp. g.=



1.20). Calculate the percentage strength of the KOH solution and its normality.

Question 3. Give the exact chemical formulas for 10 of the following: (a) Cyanogen; (b) red lead; (c) potassium ferricyanide; (d) chrome alum; (e) galena; (f) nitroglycerin; (g) trinitrotoluene; (h) perchloric acid; (i) magnesium nitride; (j) carborundum; (k) nitrous oxide.

Question 4. Discuss as fully as possible, giving specific examples of reactions, the alteration of the rate of chemical change by (a) temperature change, (b) catalysis, and (c) solution.

Question 5. What weight of copper and silver could be deposited by an electric current flowing through a solution of these metals in the same time that it liberates 90 c. c. (at normal temperature and pressure) of a mixture of oxygen and hydrogen from acidulated water?

Question 6. (a) Write balanced chemical equations to show the action of water upon four of the following: (1)  $\text{BiCl}_3$ ; (2)  $\text{CaSO}_4 \cdot \frac{1}{2} \text{H}_2\text{O}$ ; (3)  $\text{P}_2\text{O}_5$ ; (4)  $\text{Al}_4\text{C}_3$ ; (5)  $(\text{CH}_3\text{CO})_2\text{O}$ . (b) Illustrate the law of multiple proportions by the use of the oxygen acids of chlorine. Give the names and corresponding formulas of all of these acids.

Question 7. State the chief chemical distinction between (a) a peroxide and a dioxide, (b) benzene and benzine, (c) normal and standard solution, (d) carbohydrate and hydrocarbon, (e) a nitro compound and a nitrate, (f) acid chloride and a chlor-acid, (g) electrolysis and ionization.

Question 8. Write structural formulas (showing all bonds) for the following organic compounds: (a) Propane; (b) ethylene; (c) chloroform; (d) propionic acid; (e) acetylene; (f) phenol; (g) methyl amine; (h) methyl alcohol; (i) azobenzene; (j) ethyl acetate.

Question 9. State fully what is meant by seven of the following terms: (a) Hydrolysis; (b) mordant; (c) metalloid; (d) common ion effect; (e) para position; (f) efflorescence; (g) ionization constant; (h) acid salt; (i) dialysis.

Question 10. (a) Describe the Marsh test for small amounts of arsenic. (b) Distinguish between (1) mixture and compound, (2) isomerism and polymerism, (3) permanent and temporary hardness in water, (4) atom and ion.

Question 11. A solution contains zinc, tin, antimony, and arsenic. Describe in detail all the procedure necessary to prove the presence and identity of these four metals and to prove the absence of Ag, Al, Ba, Bi, Ca, Cd, Co, Cr, Cu, Fe, Hg, K, Mg, Na, Ni, Pb, and Sr.

Table of data: G. M. V.=22.4 liters; Faraday=96,500 coulombs; Ag=108, C=12, Ca=40, Cu=63.5, K=39, O=16, S=32.

[United States Civil Service Commission.]

Assistant Examiner Examination (Patent Office).

Rating: ———.

Optional Subject—Civil Engineering.

DIRECTIONS TO THE COMPETITOR—READ CAREFULLY.

Competitor must fill these blanks: Time commenced, ———. Date, ———. Examination No., ———. Time Finished, ———. Place of examination, ——— (City or town), ——— State.

N. B.—Do not write on this sheet. Blank sheets will be furnished for the answers to the questions hereon. Number answers to correspond with numbers of questions.

Write only on the ruled side of the blank sheets furnished.

Number consecutively the sheets of answers to questions hereon, and write in the following space the total number of such attached sheets: Number of sheets ———.

Three and one-half consecutive hours are allowed for this subject.

Answer any five of the following questions:

Question 1. Name five general methods of locating soundings, and describe one of them in detail.

Question 2. Describe how a base line of considerable length is accurately measured by means of the steel tape. What corrections is it necessary to apply in order to reduce the field measurements to the true length of base?

Question 3. Describe in detail how you would lay out a 5-degree railroad curve connecting two tangents whose intersection angle is 30 degrees.

Question 4. Make a neat pen-and-ink sketch of the cross section of a timber trestle for single-track railway, showing general dimensions.

Question 5. Give the Chezy formula and explain the meaning of all the terms. How is the value of each term determined?

Question 6. Describe the proper construction of a weir for measuring the flow of water, and the precautions to be observed in its use.

Question 7. Describe briefly the several methods of sinking wooden piles and the conditions under which each would be used.

Question 8. Describe all the methods of determining at any point the character of the earth strata down to rock.

Question 9. Make a neat pen-and-ink sketch of the cross section of some type of reinforced-concrete retaining wall, showing the disposition of the steel and general dimensions.

Question 10. Define the following: (a) Sidereal time; (b) triangulation; (c) error of closure; (d) reverse curve; (e) borrow pit; (f) camber; (g) cofferdam; (h) loss of head.

[United States Civil Service Commission.]

#### ASSISTANT EXAMINER EXAMINATION (PATENT OFFICE).

Rating: ———.

Optional Subject—Electrical Engineering.

#### DIRECTIONS TO THE COMPETITOR—READ CAREFULLY.

Competitor must fill these blanks: Time commenced, ———. Date, ———. Examination No. ———. Time finished, ———. Place of examination, ——— (city or town), ——— (State).

N. B.—Do not write on this sheet. Blank sheets will be furnished for the answers to the questions hereon. Number answers to correspond with numbers of questions.

Write only on the ruled side of the blank sheets furnished.

Number consecutively the sheets of answers to questions hereon, and write in the following space the total number of such attached sheets: Number of sheets ———.

Three and one-half consecutive hours are allowed for this subject.

Answer any five of the following questions:

Question 1. (a) Explain five methods by which the speed of a 3-phase induction motor may be changed and regulated. (b) Which of the above methods have received application in practice, and which of these are the more efficient? (c) How does the starting torque compare with the full-load, normal-speed torque in each of the above five methods?

Question 2. (a) Draw a diagram of a local-battery subscribers' telephone set and explain its operation. (b) Draw a diagram of a common-battery subscribers' telephone set and explain its operation. (c) Draw a diagram of a simple telegraph system of three stations and explain its operation.

Question 3. (a) How often per second will an alternating E. M. F. of 220 volts reverse a current of 4 amperes in a circuit of 0.05 henry inductance? (b) In a 3-wire, 2-phase, alternating-current system, each leg has a pressure of 110 volts across it. If the system is balanced and 40 amperes are flowing in each phase, what current flows in common return wire? (c) What is the reactance of a 133-cycle, alternating-current circuit, which contains 20 microfarads capacity in series with 4 henrys inductance?

Question 4. (a) Explain how ships are driven electrically. What machines are needed, and in what ways is electric drive an improvement over the use of steam turbines? (b) What is regenerative control? Explain how it is obtained. Where has it received its greatest application? Can it be applied to both alternating-current and direct-current power? Explain.

Question 5. (a) Several hydroelectric generating stations are operating in parallel on a high-tension transmission system. If the field of the exciter at one of the stations is cut down until the exciter is generating but half its normal current, what will be the effect of that station? Explain. (b) Explain fully, with help of a pencil sketch, the necessity and use of the equalizer connection for direct-current machines operating in parallel.

Question 6. A 2,000-kilowatt, 6,600-volt induction motor is fed from a 66,000-volt, 3-phase line through three step-down transformers, the high-tension windings of which are connected in Y, the low-tension windings in delta. What are the currents in these windings when the motor is carrying a 25 per cent overload? It is estimated that at this overload the power factor is 90 per cent and the efficiency 92 per cent. The magnetizing current of the transformers is negligible.

Question 7. Answer one of the following: (a) Explain, preferably by use of sketch, how automatic acceleration is obtained, such as used for full magnetic control of electric elevators or electric street cars. (b) Describe, with use of a diagram, a heat-run test of transformers by connecting them in opposition. What are the advantages of this method? (c) State the result, and explain the cause, when 25-cycle power is applied to 60-cycle apparatus, the voltage being normal for that apparatus.

Question 8. (a) Explain the difference between armature reaction and armature reactance. (b) Explain how the voltage at the direct-current end of a rotary converter is varied in one of the following cases: (1) Alternating-current booster; (2) series field winding on the main poles.

[United States Civil Service Commission.]

#### ASSISTANT EXAMINER EXAMINATION (PATENT OFFICE).

Rating: ———.

Optional Subject—Mechanical Engineering.

#### DIRECTIONS TO THE COMPETITOR—READ CAREFULLY.

Competitor must fill these blanks: Time commenced, ———. Date, ———. Examination No. ———. Time finished, ———. Place of examination, ——— (city or town), ——— (State).

N. B.—Do not write on this sheet. Blank sheets will be furnished for the answers to the questions hereon. Number answers to correspond with numbers of questions.

Write only on the ruled side of the blank sheets furnished.

Number consecutively the sheets of answers to questions hereon, and write in the following space the total number of such attached sheets: Number of sheets ———.

Three and one-half consecutive hours are allowed for this subject.

Answer any five of the following questions. Solutions must be shown in full.

Question 1. In making a test on a steam power plant using oil-burning furnaces, it is desired to measure the amount of steam used to atomize the oil. Describe how you would make up an apparatus of the orifice type, and how, by its use, you would find the amount of steam consumed per hour by the oil burners.

Question 2. (a) Give four advantages and one disadvantage of the Corliss valve gear over the ordinary slide valve. (b) How is the governor connected to the Corliss valve gear and how is speed regulation obtained?

Question 3. (a) Show by a sketch the essential differences between the Parsons and Curtis steam turbines. (b) Describe and explain principles of operation of one of the following: (1) Kingsbury thrust bearing; (2) rotary air pump; (3) uniflow steam engine.

Question 4. A steamer is going east with a velocity of 6 miles per hour, and to a passenger on board the wind appears to blow from the north. The steamer increases its velocity to 12 miles per hour, and the wind now appears to blow from the northeast. What is the true direction and velocity of the wind?

Question 5. (a) Explain the difference between a two-cycle and a four-cycle gas engine. (b) How does the horsepower formula as used for steam engines in conjunction with indicator cards apply to a four-cycle gas engine? (c) How are the inlet and exhaust valves of a stationary gas engine operated? (d) How does the piston construction of the four-cycle engine differ from that of the two-cycle? Why? (e) Explain one method for speed governing on a gas engine.

Question 6. (a) A flywheel weighs 10,000 pounds and is of such a size that its mass may be treated as if concentrated on the circumference of a circle 12 feet in radius. What is its kinetic energy when moving at the rate of 15 revolutions per minute? (b) How many turns would the above flywheel make before coming to rest if the steam were cut off and it moved against a friction of 400 pounds exerted on the circumference of an axle 1 foot in diameter?



Question 7. (a) Discuss the effects of alloying steel with (1) manganese, (2) phosphorus, (3) nickel, (4) sulphur, (5) chromium. (b) Draw a stress-strain diagram of a steel specimen subjected to tension. How are the coefficient of elasticity and the elastic limit obtained from this diagram? (c) What are pipes and segregation in ingots?

Question 8. (a) Show by a pencil sketch the essential differences between the turbine water wheel and the Pelton water wheel. (b) How is the quantity of water flowing through each of the above regulated? (c) For what kinds of service would you prefer a centrifugal pump and for what kinds a reciprocating pump? (d) Which of the above types of pump do you prefer for (1) boiler feed, (2) for condenser cooling water? Why?

[United States Civil Service Commission.]

# ASSISTANT EXAMINER EXAMINATION (PATENT OFFICE).

Rating: ———

Optional Subject—Physics.

## DIRECTIONS TO THE COMPETITOR—READ CAREFULLY.

Competitor must fill these blanks: Time commenced, ———. Date, ———. Examination No., ———. Time finished, ———. Place of examination, ——— (City or town), ———. (State.)

N. B.—Do not write on this sheet. Blank sheets will be furnished for the answers to the questions hereon. Number answers to correspond with numbers of questions.

Write only on the ruled side of the blank sheets furnished.

Number consecutively the sheets of answers to questions hereon, and write in the following space the total number of such attached sheets: Number of sheets ———.

Illustrate by diagrams when practicable. Give work in full and plainly indicate the answers.

Three and one-half consecutive hours are allowed for this subject.

Answer any eight of the following questions:

Question 1. What is meant by (a) a perfect gas, (b) an isogonic line, (c) electrostatic induction, (d) vector and scalar quantities, (e) band spectra, (f) phosphorescence, (g) kinetic energy?

Question 2. A specific gravity bottle, when empty, weighs 45.542 grams. When filled with distilled water it weighs 95.687 grams. If into the empty bottle we introduce 5.134 grams of an insoluble powder and then fill the bottle with distilled water, the whole weighing 53.742 grams, what will be the specific gravity of the powder? Assume the temperature throughout to be  $4^{\circ}\text{C}$ .

Question 3. Describe in detail the steps to be performed in the accurate standardization of a mercury-in-glass thermometer against a standard hydrogen thermometer. Describe the assembling of the hydrogen thermometer and draw a diagram of this instrument. Point out the sources of error in the standardization, and tell how these errors may be reduced to a minimum.

Question 4. One end of a copper bar 4 square centimeters in cross section and 80 centimeters long is kept in steam under 1 atmosphere pressure and the other end in contact with melting ice. The specific thermal conductivity of copper is 0.918. How many grams of ice will be melted in 10 minutes. Neglect loss due to radiation.

Question 5. Define in words, and mathematically where possible, (a) angular acceleration, (b) unit magnetic pole, (c) simple harmonic motion, (d) relative humidity, (e) critical temperature, (f) conjugate foci, (g) magnetic permeability.

Question 6. (a) In the propagation of sound waves, how will condensations and rarefactions be reflected from a medium more dense than is the medium through which the condensations and rarefactions, respectively, are passing? From a less dense medium? (b) What will be the pitch of the fundamental note given out by an organ pipe closed at one end and 30 centimeters long? (Velocity of sound is 34,000 centimeters per second.) What will be the pitch of the first overtone?

Question 7. With the aid of diagrams describe the purpose, construction, theory, and use of two of the following three instruments: (a) A potentiometer.

meter; (b) the Lummer-Brodhun photometer; (c) a polariscope (of a commercial type).

Question 8. Two motors are connected in parallel (multiple) across 550-volt mains. If one of the motors takes 50 amperes and the other 80 amperes, find the cost per hour to operate them both at the same time. Assume that power may be furnished at 9 cents per kilowatt hour.

Question 9. Draw a diagram of the connections of a simple wireless outfit, both sending and receiving stations, showing all essential parts. Letter the diagram and name the parts and state the function of each part. State the fundamental physical principles upon which wireless telegraphy is based.

Question 10. What is meant by "total reflection" and "critical angle"? Derive the expression  $\sin c = \frac{1}{n}$  where  $c$  is the critical angle and  $n$  the index of refraction.

Question 11. State the following laws in words, and mathematically where possible: (a) The resistance of conductors connected in parallel (multiple); (b) Joule's law for heating by electric currents; (c) Hooke's law; (d) Charles' and Boyle's laws; (e) Ohm's law; (f) Brewster's law.

The CHAIRMAN. I have also a letter from Mr. John Hays Hammond, a short letter, which I will read and ask to have put in the record.

(The paper referred to follows:)

HAMMOND RADIO RESEARCH LABORATORY.

*Gloucester, Mass, July 11, 1919.*

To the CHAIRMAN of the COMMITTEE ON PATENTS,

*House of Representatives, Washington, D. C.*

DEAR SIR: I wish to state how strongly I am in sympathy with the three bills in regard to Patent Office matters which have been brought before your committee during the last week. I am speaking entirely from the standpoint of an inventor and feel qualified to express my opinion with regard to patent matters, since I have over 200 patent applications in the United States office and have filed at least 100 more in various foreign patent offices.

I believe that we have in this country the best patent system in existence. I think that this patent system has unquestionably been an incentive to the creative genius of the country, and I believe that this incentive is attested to by the fact that no country produces the large number of inventions which the United States of America produces.

A large part of the national wealth is certainly invested in patents or in patented articles. The security of this investment is to a great extent dependent on the validity of the patents. It is the duty of the Patent Office to grant only valid patents. If through lack of personnel and through lack of funds for its various activities the work of the Patent Office should deteriorate and invalid patents should be issued, then it stands to reason that this will have a most serious effect upon the many millions of dollars that are invested on the strength of patents.

The world is entering upon a period of reconstruction after the war. In this reconstruction the United States must take the lead. American ingenuity will probably be the dominant factor in achieving American leadership. Of what avail is ingenuity without the proper patent protection? The depreciation in the face value of a patent to my mind is as serious as the depreciation in the face value of the dollar bill.

The production of invalid patents would have two main effects: First, to jeopardize the moneyed interests which are already invested in patents, since by the production of new and invalid patents the opportunity is open for the blackmail of established interests. The second effect is to make capital timid in regard to investing in patented articles, and without capital the inventor can not work and progress can not be made. Thus the work of the Patent Office has a far-reaching economic effect. I would therefore respectfully urge that the assistance which the Patent Office desires be provided by favorable action on the three bills—H. R. 5011, 5012, 6913—for it is only by such assistance that the Patent Office can produce valid patents that will assure to the inventor the legal monopoly to which he is unquestionably entitled.

I am, yours, very respectfully,

JOHN HAYS HAMMOND.

I have also a letter from Mr. Arthur E. Dowell, of Alexander & Dowell, attorneys and counselors at law, Washington, D. C., addressed to the chairman of the committee, expressing his views on this legislation, which I will read, and without objection, that will go into the record at this point.

(The letter referred to follows:)

[Patents, designs, and trade-marks. Established 1857. Cable address, aledow; telephone, Main 2168; Washington Loan and Trust Building.]

ALEXANDER & DOWELL,  
ATTORNEYS AND COUNSELORS AT LAW,  
Washington, D. C., July 12, 1919.

Hon. JOHN I. NOLAN,

*Committee on Patents, House of Representatives, Washington, D. C.*

SIR: I attended several sessions of the hearing this week before your committee on bills relating to patents.

There appears to be entire unanimity of opinion regarding the desirability of a court of patent appeals; but some diversity of opinion as to whether such court should be composed of all permanent judges, or in part of transitory judges.

I venture to suggest, for your consideration, that section 3 of the proposed act be amended in such manner as to have the chief justice annually designate six judges to sit as associate justices of the United States court of patent appeals for the next ensuing term of the court, instead of for six years.

This would, I think, avoid largely, if not wholly, the necessity of appointing additional district or circuit judges, in view of the fact that in a number of circuits the courts are not overcrowded and judges could be readily spared therefrom for one term of the court of patent appeals. Further, such term would not require any designated judge to break up his home, nor put him out of touch with the conditions in his own district or circuit, as a six years' absence would do.

It could be ordered in the act that associate judges of the court of patent appeals should be called from circuits wherein work was least in arrears; but I think this could be safely left to the discretion of the chief justice.

In this manner the desired unification of administration of the patent law throughout the country would be more quickly realized, and the advantages claimed for the patent court as constituted in the proposed act, would be obtained much more quickly than by having the associate justices serve therein six years; and no justice will be withdrawn so long from his circuit as to necessitate the appointment of a new judge to take his place; except possibly in rare instances where the quantity of the work in the circuit would be such as would justify the appointment of an additional judge anyway.

The creation of such court of patent appeals would undoubtedly benefit not only patentees and the public in shortening and lessening patent litigation; but also other litigants by expediting the final disposition of appeals in the circuit courts of appeal.

The percentage of patent appeals varies materially in different circuits. The beneficial results and saving effected by such a court of patent appeals might be graphically illustrated as follows:

Circuit courts of appeal Nos.....	1	2	3	4	5	6	7	8	9
Percentage of patent cases in such courts.....	9	8	7	6	5	4	3	2	1

(The figures above are simply illustrative.)

If the chief justice would call six associate justices from the six circuits having the smallest dockets (in example, Nos. 4 to 9 inclusive) not only would all the circuit courts of appeal be relieved of their patent cases but the three most heavily burdened of these courts (1, 2, and 3 in example) having more than 50 per cent of the patent appeals, would be immediately so greatly relieved that in a very short while the work of all the appellate courts ought to be brought up to date without the necessity of appointing any additional judges even in the circuits now so overburdened with work.

I simply offer these suggestions as giving points of view not made, to my knowledge, during the hearing.

I heartily indorse the bill for increases in the patent office, except that (with you) I think the salaries, particularly of the merely clerical force below \$1,200,



entirely inadequate to obtain efficient help. The unlivable salaries stated in the proposed bill are merely hand-downs from former bills; and, in my opinion, from observation in the office, one competent person paid a livable salary could do far more than three or four of the inefficient who are now employed in the office for such small wages.

I respectfully call your attention to the urgent need of immediate action to relieve American inventors, patentees, and manufacturers from great disadvantages, created by the war, under which they now labor, regarding procuring and saving patents in enemy and ally of an enemy countries.

Respectfully,

ARTHUR E. DOWELL.

Mr. JOHNSTON. Mr. Chairman, this letter with its references to the patent court of appeals and to the bills before us contradicts all the information I have in regard to the dockets of the circuit courts of appeals, and, with your permission, I would like to ask Mr. Robertson one or two questions on that point.

In this letter from Mr. Dowell, Mr. Robertson, if you please, he refers more than once to the crowded condition of the dockets of the circuit courts of appeal in the various circuits. Now, you know, as a practicing attorney, that the circuit court of appeals which has the greatest amount of work to do is the second circuit.

Mr. ROBERTSON. Generally speaking, there is more patent litigation in the second circuit than in others.

Mr. JOHNSTON. I mean all kinds of litigation, not only patent litigation but other litigation.

Mr. ROBERTSON. Yes, sir.

Mr. JOHNSTON. Including patent litigation.

Mr. ROBERTSON. Yes, sir.

Mr. JOHNSTON. Now, don't you know, as a matter of fact, that the circuit court of appeals judges in the second circuit are not only up to date in their work, but they really haven't got sufficient work to keep them working all the time?

Mr. ROBERTSON. In reply to that I would say that I don't think that is the purpose of the American Bar Association bill so much as it was to relieve the country of having patents invalid in one section and valid in another. Mr. Dowell is not, apparently, in harmony with the views of those who are pressing the shifting personnel bill.

Mr. JOHNSTON. What I want to show, if I can through you, is that the statements here are not in harmony with the facts. It is a matter of common knowledge among practicing lawyers that these circuit courts of appeals are not burdened with work. I myself this day could file a case—well, not this day, because the court has adjourned for the summer, but in the month of May I will file a document in the clerk's office of the circuit court of appeals, and I will probably be fourth or fifth on the calendar during the commencement of the calendar, commencing the first Monday in the succeeding June. I can get immediate disposition; I know that of my own knowledge, and that is in the busiest circuit court that there is.

Mr. ROBERTSON. The busiest circuit court of appeals.

Mr. JOHNSTON. Yes; and my information is that that is the busiest court and that the other courts—there is little to do, if anything, and I think my information is correct. Mr. MacCrate can tell you from his own experience as a practicing attorney in my circuit that that is his experience. During the whole month of June, if my recollection is correct, there hasn't been a sitting of that court in the second cir-

cuit, not because the judges are unable to do the work; they haven't got it to do, and with the exception of one judge he is sitting as a member of the court, sitting as a district judge trying cases, because there isn't sufficient work for them to do to keep him reasonably busy as a circuit judge.

The CHAIRMAN. I would take it from Mr. Dowell's communication here that he is suggesting a new method of administering the patent court of appeals to meet what he considers some of the objections that were raised around here, both to the creation of a permanent court and to the shifting personnel as it was, by suggesting that six judges be taken in for each term of court and taken from the courts that had the least work, and was using figures rather, as he said, "The figures above are simply illustrative."

Mr. MACCRATE. He suggests that the appointment be made not for the six-year term but for each term?

The CHAIRMAN. For each term of court; yes.

Mr. JOHNSTON. But he says in his letter, in urging the reasons why this bill should be approved, that—

The creation of such court of patent appeals would undoubtedly benefit not only patentees and the public in shortening and lessening patent litigation but also other litigants by expediting the final disposition of appeals in the circuit court of appeals.

Mr. ROBERTSON. Replying to Representative Johnston's question, I may add that the view expressed by him would make Mr. Dowell's plan all the more feasible, because since these circuit courts of appeals are not as busy as Mr. Dowell says, taking Congressman Johnston's statement of that fact, then it would be all the easier to take these judges from the circuit courts of appeals and bring them here for a limited time.

The CHAIRMAN. Mr. Dowell says that he is making these suggestions in view of certain statements that were made while he was sitting here before the committee, as to the overcrowded conditions, etc., and I presume most of his work has been on patents—his letter-head says, "Patents, designs, and trade-marks"—and I presume that he is merely offering this letter as a suggestion to the committee to relieve a situation where certain objections were raised.

Mr. ROBERTSON. I know Mr. Dowell has had a great deal of litigation in patent cases. I don't think he takes any cases other than patents, trade-marks, and copyrights, therefore, as you say, Mr. Chairman, he would probably take the views of other speakers here on that point.

The CHAIRMAN. And he is meeting the situation where certain objections were raised to a permanent court, and other objections were raised by members of the committee to taking men out for a six-year term, out of their respective districts, whether circuit or district judges, and this is his suggestion of the way to meet it by having six judges brought in here to sit in one session of the patent court of appeals. It has been the first time that I have heard that suggestion made in these hearings. It might have been made while I was away.

Mr. ROBERTSON. That also, as I said, would make it possible to take judges in these circuit courts, if they hadn't enough work to keep them busy, and make it more possible to take them without disturbing the circuit courts of appeals, but on the other hand, if the cir-

cuit courts happened to be busiest—should be the second circuit, for example—I don't mean now, but I mean at some future time—then it might be necessary to take judges from the circuit courts which are not the most favorable patent courts.

Mr. JOHNSTON. But he bases it all upon the assumption, as he states here in his letter:

It could be ordered in the act that associate judges of the court of patent appeals should be called from circuits wherein work was least in arrears.

There isn't any circuit in this country where the work is in arrears.

The CHAIRMAN. Those statements were made here, you know, by various speakers, and I judge Mr. Dowell is urging this letter as a suggestion to meet what he considered to be a crowded condition.

I have one more letter that I would just like to read to the committee, a short one, from Mr. Norman T. Whitaker, a patent attorney in Washington. Mr. Whitaker was here yesterday. I wrote him telling him that if he would come we would be glad to hear him, and he sent word this morning that he would like to file a statement, so if there is no objection on the part of the committee, Mr. Whitaker's letter will be incorporated into the record, giving his views.

(The letter referred to follows:)

NORMAN T. WHITAKER,  
PATENT AND TRADE-MARK CAUSES,  
*Washington, D. C., July 12, 1919.*

COMMITTEE ON PATENTS,  
*House of Representatives, Washington, D. C.*

GENTLEMEN: If there will be public hearings on the recent bill to make the Patent Office a separate Government institution, independent of the Interior Department, I desire to be heard, for I intend to oppose this proposed change. I would be pleased if you would name a day when I might be heard in opposition to this bill, when I will be present before your honorable committee.

I am vehemently opposed to the proposed change whereby it is proposed that the Commissioner of Patents should have greater authority over the admission and disbarment of attorneys. In my opinion, after long experience in patent matters, this additional power to be placed in the hands of one man might be subject to great abuse.

Respectfully,

NORMAN T. WHITAKER.

Now, is there anyone else to be heard, or does any member of the committee desire to ask Mr. Robertson any further questions? Mr. Robertson, if you have anything additional that you desire to put into the hearings you have that privilege.

Mr. ROBERTSON. Thank you, Mr. Chairman, and I would say that Mr. Lightfoot, of the Patent Office, has asked permission to file a short statement on the separation of the bureau from the Interior Department.

The CHAIRMAN. We will be glad to have it.

#### STATEMENT OF MR. BERT RUSSELL, ASSISTANT EXAMINER OF PATENTS AND SECRETARY OF THE PATENT OFFICE SOCIETY.

Mr. RUSSELL. Mr. Chairman and gentlemen, it was because of my connection with the Patent Office Society that I wrote to the chairman at one time asking leave to say a few words near the end of the hearing, having reference particularly to the prospect of the continuance of these studies on the part of the National Research Council.



The customary appropriation bill carries at its conclusion a small item of \$750, I believe it is, for the International Bureau of Information at Berne, Switzerland, but here we have in our own country a newly created organization, the research council, consisting of, I dare say, the most eminent American scientists, and, perhaps, among the most eminent in the world, who have been willing to devote a certain amount of personal attention to Patent Office problems, and it seems to me as if it would be no unsuitable for some one connected with the Patent Office to suggest the propriety of a small appropriation that would perhaps meet some of their expenses in connection with the continuance of their work. At first Mr. Prindle was tolerant of this proposal on my part. He did not ask it, and the National Research Council has not been consulted in regard to it. You may say it is merely an expression of appreciation on the part of the Patent Office Society. However, I received yesterday from Mr. Prindle a letter distinctly opposing any request for an appropriation on behalf of the National Research Council, so I abandoned that. I take the floor, however, in the hope that there may be some possible worth found in a suggestion of the Patent Office Society relative to House bill 5012.

The Patent Office Society naturally feels that the unification of the patent practice is absolutely dependent upon the creation of some sort of court of patent appeals, and submitted the following criticism to the proposal of the National Research Council, but submitted it too tardily for it to be given any consideration:

The society respectfully suggested the possible inexpediency of permanently restricting eligibility to the bench of the proposed court of patent appeals to judges of the circuit and district courts. It was felt that some men of the very highest qualifications, both technical and legal, might be thereby excluded, to the public loss; also that the educative effect of the proposed policy upon the subordinate courts should hardly be regarded as a chief criterion without jeopardizing that very soundness of judgment by which the proposed changes must be vindicated; and that the general purpose held in view might perhaps be sufficiently accomplished if, for example, the words "from among the circuit and district judges of the United States" were canceled from lines 5 and 6, page 3, and from lines 15 and 16, page 3, of the proposed bill; as also the words "circuit or district judges of the United States," lines 20, 21, page 3; and if the following sentence were inserted after the period in line 22, same page: "Not less than three of the associate judges of the said court shall at all times be appointees from among the circuit and district judges of the United States."

Translating that into the terms of the bill as printed, it would require two cancellations on page 3, occurring in lines 5 and 6, lines 9 and 10, and another in lines 15 and 16, where specific reference is made to circuit and district judges of the United States, and the insertion in line 17, after the period, of this sentence: "Not less than three of the associate judges of said court shall at all times be appointees from among the circuit and district judges of the United States."

It will be apparent that this proposal looks to a compromise between the two various types of courts that have been proposed, a shifting court and a court which may include men relatively expert in some particular department and selected with reference to the breadth of their scientific and legal attainments.

I would like to emphasize the fact that House bill 5011, while it is entitled with reference to the establishment of a new office and

contemplates as its chief feature the separation from the Department of the Interior, includes also other important features. Perhaps I am misinformed as to the legal problems involved in the language on page 3, where, beginning with line 8, it is stated:

There shall be one chief clerk, who shall be qualified to act as a principal examiner; one librarian, who shall be qualified to act as an assistant examiner; a disbursing clerk; a financial clerk; and such examiners, assistant examiners, clerks, messengers, and other employees of various grades and designations as Congress shall from time to time provide for: *Provided, however,* That among the assistant examiners of patents there shall not be in any grade a smaller number than in a lower grade.

I suppose the purpose of leaving the relative numbers, the absolute numbers, of assistant examiners and examiners uncertain and to be determined by subsequent legislation from time to time, or by the accompanying legislation of this session, was to obviate the necessity for a new enactment from this source at each session of Congress. I may be misinformed entirely, but I suppose that to merely pass such a bill as you now have in 7010 would fix the salaries for the indefinite future unless changed by a new statute and not by a mere act of appropriation, and unless some such provision as that that I read were enacted, it would be practical in the future, as in the past, for a single Member of Congress, by a mere point of order, to prevent any change in the salary schedule for the Patent Office; and therefore I express the hope that some means will be found by an amendment of the present salary bill, or otherwise, to retain the effects of this section on page 3.

On page 6 of the same measure is contained the revised form of section 487, which relates to disbarments. Comparatively little has been said, except perhaps by the last speaker, with reference to that section. If the committee please, I would like to read in relation to it the following from an address of Assistant Commissioner Clay, now deceased, before the Patent Office Society, and published in the *Scientific American* for February 9, 1918, in which there occurs the following language:

The present evils are glaringly apparent. Make-believe inventions used for promoting stock-selling schemes are usually carried on by the aid of unscrupulous patent attorneys. These should be vigorously searched out and eliminated. Great numbers of incompetents who have prostituted a profession into a mere business of fleecing the innocent swarm about the Patent Office offering alluring prospects to useless ingenuity. When they catch the innocent they file imperfect papers; they prosecute with the sole view of getting a patent quickly without regard to its value; they habitually induce inventors to file expensive foreign applications before investigation as to whether there is an invention present. They encourage efforts in wrong directions, promote the patenting of immature ideas, waste the money and energy of inventors, all for the sole purpose of swelling their own profits.

While it is a heavy and thankless task to undertake to improve this condition, it is nevertheless a reform that can be and must be accomplished, and the examiners can do much to accomplish it. Specifically, I think a carefully selected committee of the patent bar of the whole country should be called on to prepare a clear-cut code of ethics, and thereafter, with the aid of the better element of the bar, the commissioner should sternly apply the code. It would be to the great benefit of the public, increase the popular respect for patents generally, lighten the labors of the office and the courts, and lessen the chances of wild-cat promotions. It is due to the inventors that they should be defended by the institution in which their welfare is confided by the law.

Mr. ROBERTSON. If you will pardon an interruption there, I would like to say that I concur in every word of the paper just read.

Mr. RUSSELL. I think it goes without saying that the men who have appeared here on behalf of the Patent Office and the patent system are not in any way to be confused with the men to whom Mr. Clay makes reference, there being, of course, the patent attorney of altruistic mind and philanthropic purpose who finds ample time after earning his honest living, as Mr. Fish does, to devote himself to the larger and better interests of the public in those fields in which he is most familiar. It is, of course, apparent that the strengthening of the office, that the strengthening of the system of patent appeals, can only work to the financial detriment of every patent attorney, and that accordingly no one who has appeared here in behalf of these measures can by any stretch of the imagination be supposed to be seeking his own interests.

In this connection, not to put in the record, I offer a few exhibits that may be of some interest to the committee, as showing the kind of literature that has been put out. Here is given a long list of desired inventions [indicating]; the kind of follow-up letters that are used as stimulating the avarice of the inventor who may be led to believe, by reference to some of the enormous sums that have been paid, that a fortune immediately awaits him when he invents a new type of corkscrew or carburetor.

Mr. McDUFFIE. Who wants a corkscrew now? [Laughter.]

Mr. RUSSELL. But this is, in a way, a subordinate feature of the bill as represented by the committee. It is not, however, a subordinate feature of the bill in the eyes of the examining corps of the Patent Office; it is believed to be a matter of the utmost importance that something should be done to strengthen the hands of the commissioner in the matter of disbarments. He now has a right similar to that granted by this statute, but it is subject to approval by the Secretary of the Interior. The Secretary of the Interior is no doubt fully qualified to consider such matters on appeal, but a phase of the matter that appeals to me is this, that a commissioner now undertaking to debar Mr. A for some irregularity knows this, that the net result will be a protracted trial in his own office, followed by a trial still more protracted in the office of the Secretary of the Interior in which he, the Commissioner of Patents, must become virtually the defendant in justifying his act in the disbarment in this particular case, and that such a proceeding is utterly unattractive to anybody concerned in it, and peculiarly unattractive to any man engaged in large executive enterprises, as the Secretary of the Interior must be, and unaccustomed to legal procedure in detail. So that we of the Patent Office believe that the commissioner would much more freely exercise the right of disbarment if an appeal were not to the Secretary of the Interior, but to a court, and that the relationship of the Patent Office to the Department of the Interior, nominal in most other respects, might just as well be severed—might advantageously be served—as they exist to-day.

The CHAIRMAN. Why differentiate in the matter of an appeal in these disbarment proceedings on patent matters as between patent cases and other cases—land appeals—to the Secretary of the Interior? He has a certain amount of training on appeal cases; why isn't he competent to review the proceedings in disbarment cases, and why is the patent commissioner handicapped because of that appeal to the Secretary of the Interior?



Mr. RUSSELL. There was a time, Mr. Chairman, when appeals in regard to the grant of a patent went to the Secretary of the Interior. They do not now go to him.

The CHAIRMAN. But this is a disbarment appeal in disbarment proceedings; purely a legal matter. That is, a review by some legal authority—the Secretary of the Interior is generally an attorney; he has to decide cases on appeal in land matters; he has to decide cases on appeal in pension matters; he has to decide cases on appeal in a number of other matters; now, why can't he properly decide cases on appeal in disbarment proceedings?

Mr. RUSSELL. I think he can. Consider, however, this, Mr. Chairman, that as to land matters he has the appeal on the merits and disbarment matters; as to pension matters he has the appeal on the merits and disbarment matters. Now, in this case he has only the disbarment matter. He is comparatively unfamiliar with the problems of the patent law, while he remains relatively familiar with the problems of land law.

The CHAIRMAN. But he don't go into the Interior Department, as a general proposition, familiar any more with land laws or pension laws than he is with patent laws. Now, why should he not be able to render a fair decision in disbarment proceedings? Leave out the question of the patent law, patent procedure; but this is a question of where a man is accused of misconduct. It is a question of reviewing facts. Why isn't he competent to decide that, and why has that been a handicap to the commissioner in the disbarment of men who have been guilty of propaganda work?

Mr. RUSSELL. I can not assert that it has been, and I am sure I would not assert that he is ill qualified for the work; but I do believe that the situation is as I have indicated, that the fact of the prospect of a protracted hearing before the Secretary of the Interior has acted to deter the Commissioner of Patents from disbarments.

The CHAIRMAN. I am sorry to hear that, sorry to hear that any Commissioner of Patents would refuse to act where he thought there was proper justification to disbar a dishonest man or a man who is guilty of improper conduct, fearing that it would not receive proper consideration at the hands of the Secretary of the Interior.

Mr. RUSSELL. I can assert only my impression. It is a very firm impression, and I think it is proper to add that as to disbarment, the attitude of the bar association itself, the Patent Bar Association itself, is favorable to a larger number of disbarments than any commissioner of recent years has thought proper to attempt.

The CHAIRMAN. The chairman is not trying to indicate his opinion as to whether the Secretary of the Interior ought to have charge of this, or some court, but I am surprised to hear that the Secretary of the Interior has not been considered a competent authority to take this up—to take up these things—and that the Commissioner of Patents has hesitated to recommend disbarment proceedings because it might not receive proper consideration.

Mr. RUSSELL. As to the latter, I urge this suggestion, that the Commissioner of Patents has hesitated on that ground not as to the competency of the Secretary of the Interior—I make no suggestion of that kind, for I consider him competent—but the psychology of the situation is this, that there are numerous men practicing before the Patent Office whom the patent bar believes ought to be excluded; whom the examining force believes ought to be excluded; whose work is

such as to cast discredit on the entire patent system and to make us feel ourselves to be practically accomplices in a system of fleecing the public; and that is one large reason why men resign from the Patent Office. I can bring you documentary evidence to prove that they are reluctant to remain under a system that is created by the kind of practice to which reference has been made.

The CHAIRMAN. It seems to me there ought to have been some effort made to clean up the situation, and I think it needs a cleaning up. Members of Congress from day to day and from week to week are solicited by certain patent attorneys, or so-called patent attorneys, to distribute their literature, to solicit business for them, and it seems to me there ought to be a clean-up; but I can not understand why under present conditions a man who is guilty of gross misconduct—I can not understand why the Patent Commissioner would hesitate a moment, or anybody else would hesitate, about exposing that man.

Mr. RUSSELL. One reason, I think, why he has hesitated to do it is because there are so many of that kind. It is not a matter of killing a few mosquitoes; it is disinfecting a marsh that is necessary.

The CHAIRMAN. All the more reason why the thing ought to be done, even if it was in the shape of a dragnet.

Mr. JOHNSTON. What is the practice now? Suppose a man is accused of misconduct, a practicing attorney of the patent bar, what is the first thing that happens? Who is he accused to, the Patent Commissioner?

Mr. RUSSELL. I think the accusation is brought to the Patent Commissioner.

Mr. JOHNSTON. And has he got authority to hear and determine the matter?

Mr. RUSSELL. I think he has.

Mr. ROBERTSON. Subject to the approval of the Secretary of the Interior.

Mr. JOHNSTON. That is the status now?

Mr. ROBERTSON. The law gives him power to disbar for gross misconduct, subject to the approval of the Secretary of the Interior.

Mr. JOHNSTON. Just a moment—now, hasn't the court of which this man is a member also got jurisdiction?

Mr. RUSSELL. He is not a member of any court, sir—of the bar; no, sir.

Mr. McDUFFIE. He is not a regular member of the bar?

Mr. ROBERTSON. No, sir.

The CHAIRMAN. How long would it take you to finish, Mr. Russell?

Mr. RUSSELL. I think—I feel that I ought to have finished, Mr. Chairman.

The CHAIRMAN. It is now 12 o'clock. Could you incorporate in the hearings whatever matter you have in mind—a statement of whatever statistics you desire to put in?

Mr. RUSSELL. I shall be glad to do so, Mr. Chairman.

Mr. McDUFFIE. There is no question about a lawyer being disbarred if he wrote and circulated a document of this kind [indicating] to get business.

The CHAIRMAN. It is now 12 o'clock, and if there are no other gentlemen here requesting to be heard the hearings will be adjourned until the call of the committee.

(Whereupon, at 12 o'clock noon, the committee adjourned.)

COMMITTEE ON PATENTS,  
HOUSE OF REPRESENTATIVES,  
*Thursday, July 24, 1919.*

The committee met at 10.30 o'clock a. m., Hon. John I. Nolan (chairman) presiding.

**STATEMENT OF HON. MARTIN T. MANTON, JUDGE OF THE UNITED STATES CIRCUIT COURT OF APPEALS FOR THE SECOND CIRCUIT.**

Mr. JOHNSTON. Mr. Chairman, will you have it appear of record that Judge Manton, of the United States Circuit Court of Appeals for the Second Circuit, has appeared here at my request to give the committee the benefit of his experience and suggestions on the subject now before the committee?

The CHAIRMAN. The record will show that fact.

JUDGE MANTON. Mr. Chairman, as Mr. Johnston has advised you, I appear in reference to House bill 5012, now pending before the committee, having for its purpose the creation and establishment of a United States court of patent appeals. I can give the committee such information as my experience on the circuit court of appeals has taught me in the time I have been there, and I trust it will be of some aid to you. This bill provides for a court of seven members, as I read it, five of whom shall constitute a quorum, the chief justice to be appointed by the President and the remaining members of the court, or associate members of the court, to be taken from the district courts and the circuit courts of appeals of the country.

I assume that the first consideration would be the question of the need for the court. I believe that it is not necessary to create the court, because I think that the causes that are appealed from the district courts involving patent questions are now sufficiently cared for by the Circuit Court of Appeals. I have examined the Attorney General's report as to the number of cases disposed of for the years 1918 and 1916. At the moment I did not have the report for 1917 before me, but I assume it is available to the committee. I am a member of the Circuit Court of Appeals for the Second Circuit, and that court does much more business than any of the other circuit courts each year. This table may be of some aid to the committee. In 1918, according to the Attorney General's report, in the first circuit there were disposed of 71 cases. Those were cases involving all questions of law that were presented to the Circuit Court of Appeals during that year, and that same statement is true of the subsequent figures which I will give. In the second circuit, during the same year, there were disposed of 279 cases; in the third circuit there were disposed of 131 cases; in the fourth circuit there were disposed of 90 cases; in the fifth circuit there were disposed of 154 cases; in the sixth circuit there were disposed of 144 cases; in the seventh circuit there were disposed of 137 cases; in the eighth circuit there were disposed of 248 cases; and in the ninth circuit there were disposed of 223 cases. In the year 1916, in the first circuit there were disposed of 74 cases; in the second circuit there were disposed of 349 cases; in the third circuit there were disposed of 157 cases; in the fourth circuit there were disposed of 74 cases; in the fifth circuit there were disposed of 153 cases; in the sixth circuit there were disposed of 139 cases; in



the seventh circuit there were disposed of 125 cases; in the eighth circuit there were disposed of 244 cases; and in the ninth circuit there were disposed of 203 cases.

In the United States circuit court of appeals for the second circuit the percentages of patent appeals during the past four years were as follows: In 1915 there were 304 causes in all upon the calendar, of which 23½ per cent were patent causes; in the year 1916 there was a total of 271 causes on the calendar, of which 21 per cent were patent causes; in the year 1917 there was a total of 253 causes on the calendar, of which 18 per cent were patent causes; and in 1918 there was a total of 245 causes on the calendar, of which 10 per cent were patent appeals.

One fact stands out clearly, and that is that patent appeals are steadily decreasing in our circuit, and have been during the past four years, and I am advised that that is the condition throughout the circuits. A discrepancy may appear between the numbers given as to number of causes in the circuit court of appeals for the second circuit and those given by the Attorney General's reports, as stated here; but that is a discrepancy that may be explained by the fact that some of those cases are settled and, therefore, they are not recorded as disposed of in the Attorney General's report. It is my opinion that the second circuit court of appeals disposes of nearly 50 per cent of the patent cases in the nine circuits.

Some of the circuits do not have the volume of patent business that a great metropolitan district like New York has. Because of the commercial and industrial situation in New York, patent causes are brought there, and it is also largely because the business and commercial interests have offices there, and their business to a large extent is transacted in that circuit. Thus the jurisdiction is in the second circuit. With this steady decrease in the number of patent causes, or in the percentage of patent causes, it is my opinion that the need is not a growing one for the creation of such a court of patent appeals.

Our experience during the current year was that we disposed of our business by devoting three weeks per month to the hearing of causes and one week per month for our consultations and study. We began our term in October, and were compelled to suspend the month of February because of the lack of work. We finished our work in the next half year without sitting during the month of May, except for several cases which arose and which were cases that needed immediate attention subsequent to the time of filing records and briefs at the last date fixed by the court. In other words, during the current court year there were two months when we might have been working, but we did not have the work to do. Speaking for one of the members of the court, and he is the only one I have had the opportunity of speaking with since this bill was called to my attention, I will say that he (Judge Hough) writes me a letter from Andover, N. H., where he is spending his vacation, from which it appears that he is opposed to the bill and is opposed to the creation of the court. If I may be permitted, I will state some of his reasons.

The CHAIRMAN. You can incorporate Judge Hough's letter in the record.

Judge MANTON. I would prefer not to incorporate the letter, because it is written in a personal vein.

The CHAIRMAN. Then, read such portions of it as you like.

Judge MANTON. He says, among other things—

The old plan for a court of patent appeals has been revived. My own personal feeling is against the scheme. I do not like technical courts, namely, courts dealing with a single subject. They soon get narrow, and if the patent court were made up of patent lawyers, patent law would in a few years become as slavish a mass of hair-splitting as is now conducted in the Patent Office as disclosed by the "File-wrapper and contents." This view of mine is borrowed, namely, I excerpted it years ago when the court of patent appeals got by at least one House of Congress, from the opinion of Mr. Wetmore, now deceased, but in his time as good a member of the bar as the patent bar produced.

He said it was impossible to have a court of patent experts, because the court was made to fit the evidence and decide on the weight thereof; that every patent expert had preconceived views as to every patentable thing, and, of course, always found the best evidence in his own ideas. He says:

The question is one on which the patent bar is very much divided, and they have never yet presented a united front to Congress. I do not know where they officially stand now. I say "officially," for the patent men are really pretty well united in the patent section of the American Bar Association. There have been a number of kinds of patent courts suggested heretofore, one in which the judges are appointed to the court like the Court of Claims and the Court of Customs Appeals, and the other composed of circuit judges and district judges detailed for that purpose, and then returning to their circuits or districts. The second is more dangerous, and that is the sort that nearly went through, I forget how many years ago. I think it vicious for the reason first above given.

The CHAIRMAN. I must go to a meeting of the Senate Committee on Education and Labor, which is taking up the minimum wage bill, and, if you will permit me, I would like to ask you two or three questions at this point. We have had a number of gentlemen to appear here, and among them one Federal judge, Judge Hand, of New York, who was in favor of the bill. We have had representatives of the American Patent Law Association, including the president of it, to appear, and we have had representatives of the American Bar Association to appear here on this bill. It is a rather involved question, and there has been a good deal of difference of opinion among the members of the committee as to the practicability of the bill as it is written.

Judge MANTON. I was coming to that.

The CHAIRMAN. I want to preface a question or two that I am going to ask. We also found out that there was a disposition on the part of most of the witnesses who appeared here to question the advisability of creating a court of appeals devoted entirely to the hearing of patent causes. Those questions are doubtful ones in the minds of the committee. It seems that everybody here is agreed on one thing, and that is the desirability of having one tribunal that would decide patent causes, rather than nine.

There have been instances cited where inventors have had to go to three or four different circuits to defend their rights against infringement, not only against individuals, but against different organizations of manufacturers or individuals who may have infringed the patents. They may get a decision, for instance, in the first, second, and third circuits against three different individuals, but that does not prevent a fourth individual from infringing the patent in the fourth, fifth, or sixth circuits, or at some other place, and then

the patentee is compelled to defend his right in all of those different circuits in a number of causes. That is one of the main arguments advanced for the establishment of a patent court of appeals.

Judge MANTON. In other words, the argument is that there is a variance in the decisions?

The CHAIRMAN. Yes; that there are conflicting decisions.

Judge MANTON. Yes, sir; as between the various circuits. Now, the answer to that is this: There are some variances. They are attempted to be explained, oftentimes, in the opinions of the courts by showing different facts, or by differentiating the cases as they appear in the various districts. The only safe way in which you can guard against that conflict is to have formulated a rule, which may be done by the Supreme Court of the United States rules, or by the circuit court of appeals rule, to the effect that they shall have regard for the previous decisions of the circuits and agree to follow them; but you can not avoid it by simply taking an appeal to one court, because this prospective patent court of appeals, after its creation, would be obliged to follow precedents, and we will have decisions quoted from the sixth circuit, second circuit, third circuit, etc., showing the view that is contended for on each particular side of the case.

It is guarded against and protected now in this way: Where there is a difference, or an apparent difference, or merely a fancied difference between the decisions in the second and in the third, fourth, or sixth circuits, when application is made for a writ of certiorari, the Supreme Court of the United States can take jurisdiction to settle the point involved, so that there will be no longer the difference between the second and sixth, third or fourth circuits, as the case may be. That is one of the grounds on which a writ of certiorari is often asked, and, therefore, one can get the last word to be said on the subject from the Supreme Court of the United States. May I say further that I think the courts are very reluctant to admit that there is such differences of opinion between the circuits? They try as far as possible to follow the precedents set by other circuits.

The CHAIRMAN. Without referring to any particular case, Judge Hand dwelt upon that very strongly in his advocacy of a patent court of appeals, and I wanted to call that to your attention as the main argument for it. I want to call your attention to that as the main argument for the establishment of a patent court of appeals. The question of relieving the circuit courts of appeals is incidental to it as a reason why it should be done.

Judge MANTON. I think that is answered by the fact that such difference of opinion can be settled finally by the Supreme Court of the United States on the allowance of a writ of certiorari, and where the writ is granted it is some recognition by the Supreme Court of the United States that there is a difference between the circuit courts of appeals.

The CHAIRMAN. They agree that there is a remedy for it, but they say that it is very costly to the inventor. We have not only the opinions of lawyers upon that, but we have had some very prominent inventors and scientists to discuss that question with us.

Judge MANTON. I do not want to comment on their opinions, but it strikes me——

The CHAIRMAN (interposing). They gave us the result of their experience.



Judge MANTON. I think it would be more than overcome. I think there is a remedy in the procedure I have described. There is an existing remedy now, and I think that when you consider what is involved in the creation of a new court of appeals in the way of cost, and when you consider the amount of work taken from the circuit judges, thereby leaving them without sufficient work, you will see that it would be an injustice to the taxpayers.

The CHAIRMAN. The suggestion, of course, has been made that practically all the circuit judges would be appointed, but that would not get around the objection to taking men away from their circuits.

Judge MANTON. Let me say a word on that subject, if I may: There are in the United States nine circuits. Under the statute, in the second, seventh, and eighth circuits there are four circuit judges; in the fourth circuit there are but two judges, while in the other circuits there are three judges. Under the law, three judges are required to constitute a court. I do not know of any circuit that could spare a judge of the circuit court of appeals, and if you take a judge from a circuit court of appeals, that would mean that his place would have to be taken by a district judge.

Then you would have one district judge reversing, or taking part in the reversing, of another district judge who has equal place and position. Then, if, under the provisions of this bill, a judge of a district court were selected for a period of three or six years, as the case may be, to constitute one of the judges of the patent court of appeals you would then have a district judge reversing, or taking part in the reversing, of another district judge. I might add that I doubt if there is any district that can spare a judge. The volume of business that will go to the United States courts will be increased with the tendency toward a centralized Federal Government.

The CHAIRMAN. Another suggestion made is contained in a communication to the committee from a representative attorney who was here during the hearing, to the effect that the court could be constituted by calling in judges to sit here in Washington for a term; that is, that there could be appointed a chief justice who could call in the necessary number of judges to sit with him during a term to hear patent appeals.

Judge MANTON. They do that under this bill—

The CHAIRMAN (interposing). No, sir; that is for six years.

Judge MANTON. Do you mean for a less period?

The CHAIRMAN. For terms of three, four, or six months.

Judge MANTON. In my opinion, that would work poorly, because you would get such a variance of views. Men from the West, South, and North would have various views, and the development of the law would be retarded, in my judgment.

The CHAIRMAN. We have that condition now in the circuit courts, have we not?

Judge MANTON. No, sir; I think any tendency of that kind generally is corrected by the circuit court of appeals.

The CHAIRMAN. In the circuit court of appeals we have judges from the West, South, North, Middle West, and East.

Judge MANTON. That is true, but you would not have them in such numbers as you would get them if you had such a short period of appointment.

The CHAIRMAN. Do you not believe that for such a purpose five or six men sitting with a chief justice here would tend to help more than if you had a narrower tribunal?

Judge MANTON. I think five judges of the court of appeals would.

The CHAIRMAN. I had reference to the idea that men might be narrowed by the sections they came from, but if you brought them into contact with a number of men from the different sections, hearing patent cases, their views might be widened.

Judge MANTON. This bill provides that it may be done by consent. It must be done with the consent of the judges, and the field from which you could get judges to sit in the patent court of appeals would be a limited one.

The CHAIRMAN. I want to get your suggestions on this question, that if they should be brought in for a limited period of time their views would not be entirely narrowed because they would have the opportunity of going back in a short time to take up general cases.

Judge MANTON. Do you mean to ask me whether, in my opinion, that is a good suggestion or not?

The CHAIRMAN. As I have suggested, I think the committee are firmly convinced that the bill as at present drawn is rather complicated, to say the least.

Judge MANTON. I do not think it is workable. I do not think you could get the number of judges. The chances are that the districts or circuits would suffer unless there was some one to take the place of the judge who leaves.

The CHAIRMAN. We are searching around for light and information on the subject of a patent court of appeals, and the suggestion has been made that the necessary number of judges should be brought in here, say, once a year, for a term of court to hear patent appeals from the various circuits and districts.

Judge MANTON. I think that if there is to be any legislation of this character it would be much better to have a patent court of appeals appointed. They might be taken from the circuit judges or the district judges, but I think it would be much better to have a longer period, or six years, because under the other plan you would just be removing men from their fields of activity for a short period of time, with no knowledge, perhaps, as to just how long they would sit, because their terms would expire in short periods and they would go back.

The CHAIRMAN. There is one other suggestion. The suggestion has been made by gentlemen who have given this matter considerable study that it might be good policy to turn the work over to the customs court of appeals, which, it seems, has not enough work to keep it busy. The suggestion has been made that the customs court of appeals could very well handle the patent cases.

Judge MANTON. The answer to that is that the circuit courts of appeals need this work to keep them busy. I am very much opposed to having three months' vacation in the summer time and then having a couple of months more during the winter.

Mr. JOHNSTON. Several lawyers who appeared before the committee have suggested or, rather, urged, that this bill be acted upon favorably by the committee because the circuit courts of appeals are so pressed with work of a general character, including patent work.

that it would be desirable to have a court of patent appeals for patent cases exclusively. This schedule you have produced here and put into the record discloses that that statement is not well founded.

Judge MANTON. No, sir; I think it is not. I think that you would have men without work to do if patent causes were taken from the circuit courts of appeals.

Mr. JOHNSTON. Would not the creation of this court necessarily result in the appointment of additional judges of the district courts in the event of the withdrawal of judges from the district courts?

Judge MANTON. It would probably result in asking for other legislation to create a greater number of circuit court of appeals judges to take the places of those judges who would come here for six years for service in the patent court of appeals, and also in asking for additional judges in the various district courts of the United States. It seems to me that if there be any legislation at all upon the subject, the better plan would be to create a court for this purpose and at the same time create the offices of chief justice and associate justices, leaving the circuits and districts as they are. I do not think that there are enough patent cases in the country to keep them busy.

Mr. WHEELER. There are certain times in the year when the district judges are not holding court, and in a good many of the districts they do not hold court except for very short intervals. Is not that true?

Judge MANTON. Well, the best way to answer that is to state what has been the practice in the matter of securing the services of those judges in the southern district of New York, which is, perhaps, the busiest district in the country: There has been a special law enacted whereby we may call into the southern district of New York judges to help out. I know that the judges of the district court there send out invitations to district judges throughout the country to come and assist them, but this year they are having considerable difficulty in getting judges because they are busy in their own districts.

Mr. WHEELER. Why could not this bill provide the same thing, by inserting a clause providing that those judges should come here and serve for a limited time, as the chief justice of this court might call upon them to serve. There are districts, or there were during past years, that had practically nothing on their dockets, and where they were not holding long sessions of the courts.

Judge MANTON. The answer to that is this: I called your attention to the difficulty experienced in getting judges in the southern district of New York, and that, I think, is one of the most attractive districts in the country. It is in New York where they might have some vacation as well as hold court. Then, again, I think that where you have judges in districts that have little or no business, they are not the men who have had the opportunities to gain the experience that is required in patent cases.

Mr. BABKA. As I understand it, the main objection to the present status is that the various district or circuit courts hand down conflicting decisions. Now, in your opinion, that can be remedied by the Supreme Court prescribing a rule which the various district and circuit courts would have to follow?

Judge MANTON. Or by some appropriate tribunal which could make a rule requiring them to have regard for the precedents that



have been established. As I have said, that is corrected through the opportunity of appeal to the United States Supreme Court by writ of certiorari, under which it would have the last say.

Mr. BABKA. I understand that.

Mr. JOHNSTON. The criticism that has been urged here by some inventors is not that there is a conflict of opinion between the judges in the various circuits which may ultimately be reconciled by the Supreme Court of the United States, but that the patentee would try an infringement case, say, in the second circuit; that case would be tried in the district court, and that then, no sooner would it be completed, than an appeal would be entered by the defendant, and while that appeal was pending another action would be commenced, we will say, out in the ninth circuit.

Judge MANTON. The answer to that is this, that they will do that anyway, even after we pass upon the case in the circuit court of appeals and do what we consider should settle the law as to the particular patent. If others come, they not only under the guise of new evidence or new material, but they ask the court to reverse its former decision. That is bound to happen, no matter how many patent courts of appeals you may have. That, however, always results in loss to the man who brings the suit. He is usually defeated and usually pays for the journey.

Mr. JOHNSTON. Do you think the judges would be reluctant to come here and sit in this court?

Judge MANTON. I do not know as to that.

Mr. JOHNSTON. The suggestion was made that they would probably be reluctant to come, and that, therefore, in order to induce or persuade them to come that they would have to have compensation of \$11,500.

Judge MANTON. I think, perhaps, that they would be reluctant, because the number of judges who like patent cases is limited.

Mr. VESTAL. I gather that you are not at all in sympathy with the suggestion that, say, five circuit judges be called to Washington to sit during a term of three months or six months, and then be permitted to go back to their circuits?

Judge MANTON. Answering your question, I think that a term of three months would probably finish up the year's work that they would have to do. I think it would be hard to get them, because they are wanted in their own districts. Three judges would be required to constitute a court. There are only three circuits that have four judges. I might mention in passing that there are four judges of the old commerce court who are judges of the circuit court of appeals. One of them, Judge Hunt, is assigned to the ninth circuit, where he sits and helps out in the circuit court of appeals. Then another one, I think, is in the sixth circuit. Judge Mack is sitting in New York in the district court most of this current year, and Judge Knapp, I think, is in the fourth circuit, which has two judges. He has been assigned to that circuit, making three. As I said, in order to have a court you must have three judges. The judges are reluctant to have district judges sit in the circuit court of appeals, because, as I have said, that creates the situation of one district judge taking part in the reversing of the decision of another district judge.

Mr. VESTAL. I understood you to say that this court ought to be composed of circuit judges, but I do not know whether I understood the first part of your answer as to whether three months' work by the judges sitting here would clean up this business.

Judge MANTON. In patent cases?

Mr. VESTAL. In patent cases.

Judge MANTON. Yes, sir; three or four months, or four months at the outside, I would say.

Mr. BABKA. The patent business, as I understand it, has been steadily decreasing.

Judge MANTON. Yes, sir; and I have given you the percentages.

Mr. BABKA. Is that due to the fact that the law is becoming more settled?

Judge MANTON. I think that is probably the answer.

May I add that I am advised by the clerk of the circuit court of appeals of the second circuit that when this bill was formerly presented to Congress Judge Lacombe, the senior circuit judge in the second circuit, was opposed to it. Since then he has retired. I do not know the attitude of my two other associates, Judge Rogers and Judge Ward, because I have not had an opportunity to confer with them.

Mr. VESTAL. You understand that this legislation as proposed is similar to, if not identical with, the legislation which was before Congress for a number of years?

Judge MANTON. I am so advised.

Mr. VESTAL. Judge, we are very much obliged to you for your statement.

(Thereupon the committee adjourned.)

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COMMITTEE ON PATENTS,  
HOUSE OF REPRESENTATIVES,  
*Wednesday, July 30, 1919.*

The committee met at 11 o'clock a. m., Hon. John I. Nolan (chairman) presiding.

The CHAIRMAN. The committee will come to order. Gentlemen, we have had hearings on several bills—5011, 5012, and 7010—covering a period of several weeks. There is no one now pressing us to appear before the committee. The testimony taken has been revised and is now ready for the printer, and if there is no objection upon the part of the committee, with the inclusion of several letters from different organizations and briefs, the hearings will be considered closed and the testimony printed.

Mr. MACCRATE. I move that the hearings be closed.

Mr. WHEELER. I second the motion.

(The motion was put and carried, and it was so ordered.)

The CHAIRMAN. Now, I have here a number of letters and briefs. I have a brief from the manager of the patent department of the National Automobile Chamber of Commerce, which, without objection, will be inserted at this point.

(The paper referred to follows:)

NATIONAL AUTOMOBILE CHAMBER OF COMMERCE (INC.),

New York, July 22, 1919.

COMMITTEE ON PATENTS,

House of Representatives, Washington, D. C.

GENTLEMEN: I was scheduled to speak before your honorable committee at the recent hearings on the bills for reforming the patent practice. Unfortunately, due to the dislocation of the schedule, I was compelled to return to New York before my turn was reached. Therefore, I will put my remarks in writing.

I am in charge of the patent department of the National Automobile Chamber of Commerce, which has a membership of 117 corporations, all of whom are American manufacturers of automobiles. Substantially all patent matters affecting any of our members are referred to my department. Therefore, I feel I am qualified to speak as to how the present patent situation affects a very large portion of the automobile industry.

I will divide my remarks into four heads: One, the general situation resulting from the issuance of unreliable patents; two, the desirability of the special patent court of appeals; three, the expense to the Government of the proposed reforms; and four, the burden upon the public due to the inability of the Patent Office to keep up to date in routine matters.

1. The general situation resulting from the issuance of unreliable patents: The fundamental difficulties of the present situation as regards patents is that the patents as now issued and for some time past issued by the Patent Office are utterly unreliable. They can not be taken on their face value. Therefore, although the theory of the American patent system is that the scope and validity of patents should be determined by the Patent Office before issuing, and the fees collected on this understanding, the practice is otherwise, so that those interested in patents, principally patent owners and manufacturers who wish to operate under these patents, have no basis upon which to go until they dig down in their own pockets and do over again the work that the Patent Office is supposed to have done.

This highly objectionable situation is not the personal fault of any present or past employee or official of the Patent Office. It is a matter of growth and has been appreciated and objected to by the Patent Office for many years past. But Congress, in spite of strenuous representations, both by the officials of the Patent Office and members of the present bar, has never seen fit to grant adequate relief.

The granting of unreliable patents is due primarily, fundamentally, and directly to the meager and insufficient force and insufficient facilities allowed the Patent Office by Congress. It is to be appreciated that the bureau of the Patent Office is operated under definite statutes defining the number, compensation, and personnel in detail, and likewise defining the funds available for each separate activity of the Patent Office.

While the personnel and facilities of the office have been slightly increased from time to time, this increase has by no means kept step with the greatly increased volume of patent applications and related work which the Patent Office is required to handle.

It is bad enough to have issued unreliable patents, but to make matters worse it is a well-settled rule of the courts that a patent formally issued under the seal of the Government is *prima facie* valid. Therefore, we have the situation that patents which are notoriously unreliable when brought into court are presumed to be *prima facie* valid. So the defendant in a patent case is presumed to be guilty and the burden is upon him to show otherwise. In the abstract this proposition is sound and proper because it is upon the theory that the validity of the patent is properly considered by the Patent Office before issuance.

Likewise anyone interested in purchasing or acquiring a license under a patent, or who is threatened with infringement is put to the burden and expense of demonstrating the real value of the patent.

As a result of this state of affairs, the chamber's patent department was organized at an expense of many thousands of dollars for the primary purpose of doing over again the work which should have been done in the Patent Office.

We have to investigate hundreds of patents and hardly one of those we have investigated has successfully borne the test of our research. As regards many of them, investigation has shown they are utterly invalid, or so limited in character as to be of no value. Thus inventors have had their hopes raised by the



Patent Office only to be dashed to earth when the true facts are learned, and, on the other hand, manufacturers of automobiles have been menaced and harrassed by patents which upon investigation have been shown to be of no real interest. All this at the expense of the industry, after the patentees have already paid the Government for the same work.

A particularly wasteful example of the unsatisfactory conditions existing today is the case of actual litigation brought on an unreliable patent. We have suffered this experience more than a few times. While one of the primary purposes of our Patent Department is to keep our members out of court, with its attendant expense and uncertainties, ever so often some of our members are charged with infringement of a patent which investigation shows is without proper basis. There are a number of reasons why these cases are brought into court. Sometimes it is due to the notorious optimism of inventors, sometimes because of the gambling instinct of humanity. But whatever the reason, we have suffered; that is, suits have been brought against our members and we have been put to the trouble and expense of carrying them to the highest court available. True, we have ultimately succeeded, but this still left us out of pocket the expense of being dragged through the courts to demonstrate a proposition which would never have existed if the Patent Office were properly equipped.

To sum up the present situation, due to unreliable patents, is simply a mess of hopes, fears, and unnecessary expense. Without question the remedy is an increased force for the Patent Office with increased compensation coupled with adequate physical facilities.

I am thoroughly conversant with the situation in the Patent Office, because I had the honor to be an examiner (and I surely consider it an honor). My term of office lay a number of years before the present war and even at that time I found my salary none too adequate. In view of the increased cost of living I do not see how the present members of the force can possibly make both ends meet. Naturally this leads to those who can leave, leaving the Patent Office for more remunerative positions, and those who can not leave are surely in no mental condition to properly concentrate upon the work.

The personnel of the examining corps is well fitted to do the work it should do, and every man in the corps deprecates the conditions, which though beyond his control, compel him to give inadequate service to the inventor. Every Commissioner of Patents for many years past has repeatedly urged Congress for adequate relief, but without success.

Now, the reforms in the Patent Office itself entailed in the proposed legislation do not involve any change in the fundamental principle of the American patent law system. There is nothing radical or revolutionary being asked, no experiments to be indulged in. The only things asked are fair treatment for the present employees and adequate facilities for them. The personnel of the Patent Office already has a keen appreciation of the situation, and with the proper facilities provided the examining corps will promptly bring the standard of the work up to the proper level.

Your committee may have acquired the impression at the oral hearings that under the present system the good men leave and only the poor remain. This is by no means true. There are many reasons involved as to why certain men stay in the Patent Office examining corps and that many of these reasons are tragic makes it all the more necessary that the present compensation be raised substantially.

Coming to the physical aspect, the present building is utterly outgrown and overcrowded. Irreproducible records of the greatest value are exposed to loss and damage, particularly by fire. True, in recent years there has been some slight improvement, the sprinkler system having been installed in the building, but owing to the enormous quantity of combustible records I do not believe this system can be relied upon. What is needed is a new and adequate building.

Another most crying need is for more complete records of the prior art. The Patent Office should have on file every printed piece of paper relating to the technical arts, both foreign and domestic, including books, periodicals, trade catalogues, etc. As a matter of fact, the Patent Office has only a complete file of American patents and of such foreign patents as are printed. But there are a number of foreign countries which have not reproduced in printed form all of their patents. Every United States patent is therefore issued in utter ignorance of the data disclosed in these unprinted records, although under the law these records are part of the prior art.

Take our own case. It so happens that the pioneer work on present-day automobile practice was developed in France in 1895 to 1901, inclusive, and this

is just one of the periods in which the French patent office printed but few of its patents. To supply this deficiency we have had to spend in the neighborhood of \$15,000 for manuscript copies of these French patents. True, it has been economy for us to do this, because it is cheaper to pay this sum than to pay many times that amount as royalties on invalid patents, but it is not a proper burden to place upon our industry. The records should have been available in the Patent Office and the American patents in question should never have been issued without first having been modified as required by these disclosures.

Now, coming to books and magazines. The Patent Office has but a fragment of the printed technical art, and that fragment, due to the small space available, is poorly arranged. As for trade catalogues and the like, the same situation applies, only its worse. Undoubtedly the industry would be glad to present this material to the Patent Office, but it can not be received because there is no place to put it.

As the Patent Office has to make searches on pending applications, they naturally should be adequate searches, but the office can not make an adequate search unless it has available full data. If the Government had possession of full data, it would completely fill the present building, leaving no room for employees. Therefore, there is no question but what a suitable building and suitable provision for acquiring the prior art data must be provided.

This in turn brings up the question of classifying and making available such data. The Patent Office has been struggling with this problem for over 20 years. The only ones properly qualified for this work are the members of the examining corps. With the present limited force, if a sufficient number are taken from the examining work and put upon classifying, even the meager data available, the current work suffers, and vice versa.

The classification of United States patents alone is in such defective shape that an accurate search is well-nigh impossible.

In our own case, this trouble encountered was such that we found it an economy to engage a force at Washington to pick out the automobile and internal combustion patents issued by the United States, bring them to New York, and classify them in our own library. For this work we were compelled to hire a force of 11 men for over half a year, paying each man \$48 a week, and this, plus the cost of patents themselves and of arranging them, involved an expense up in the thousands. Here again, although in view of the present situation it was an economy for us to do this, it is not a proper expense to which this industry should be put.

Likewise we were compelled to spend several thousand dollars for magazines, books, trade catalogues, and the like so as to make our library as complete as possible. Every bit of this expense would have been unnecessary if the Patent Office was so equipped as to be able to do reliable work.

2. Desirability of a special patent court of appeals: It is unnecessary to go over the reasons why this is desirable other than to say it will make for uniformity of decisions and for better decisions. I have never heard any sound argument against the special court.

However, at the oral hearings something was said about the difficulty of arranging for a changing personnel of the bench of this court. I was not very much impressed with this alleged difficulty, and firmly believe that the idea of the rotary bench is an absolute essential to a successful special patent court of appeals. Experience has shown that special courts with a fixed bench become hidebound. In addition, one of the principles involved in this rotary bench is that the courts of the first instance will, in the course of time, be filled by judges who have had this special experience on the court of appeals, a result which would not be accomplished if the court of appeals had a fixed bench. With this factor of the rotary bench left out, I would be utterly opposed to the proposed special court of appeals for patent cases.

3. Expense to the Government of the proposed reforms: Your chairman very truly remarked that it is very difficult at the present time to obtain legislation, no matter how meritorious, if it involves the least expense to the Government.

I wish to point out that the proposed legislation, while apparently involving an increased expense, will, due to a peculiarity of the revenue acts, result in an increased income to the Government instead of expense.

It is perfectly obvious that when an application is filed in the Patent Office, claiming more than the prior art will permit, the expense to the Government in developing the full prior art and properly limiting the patent when issued, is but a pittance, as is shown by the statement that the present fee of \$35 will produce sufficient revenue to permit of such adequate investigation. Now, if

as is the case to-day, applications do issue with improper claims, the cost to the inventor and to the industry in doing over again the work that the Patent Office should have done is far in excess of the \$35 fee.

It is rather difficult to give any exact figures, but the most meager investigation into the scope and validity of a patent costs a minimum of \$100. There is no real maximum, but let us say the maximum is \$2,000. Next take the case of an unreliable patent which is involved in litigation. The expenses there probably run between \$500 and \$20,000. I do not pretend that these figures are the proper limits, but they are at least along customary lines. Now, as pointed out above, due to the peculiarities of patent litigation, the defendant is presumed guilty until he proves himself innocent, and due to the fact that the defendant or the potential defendant is generally a corporation, these expenses in most cases fall upon corporations. Under the present revenue act these expenses are properly deductible from gross income when the corporation is figuring its net income for taxation purposes. Therefore, if these expenses had not been incurred, the net revenue of the corporation would be increased by that amount, and the Government would get its taxable pro rata thereof, which in the case of ordinary corporations is not far from 50 per cent, because it is what we may call the "top dollars" that are involved. Therefore every dollar that the Government may see fit to appropriate for improving the patent system will undoubtedly result in an increase in revenue returns many fold over. This is not a paper argument. It is a peculiar situation, but none the less true, that the Government can make money by spending it on the Patent Office.

4. The burden upon the public due to the inability of the Patent Office to keep up to date in routine matters: In the hearings before your committee the need of increasing the examining corps and its compensation was given special emphasis, it being considered that the clerical employees would probably obtain relief through some of the general legislation pending. This is undoubtedly true, but there is one special condition in the Patent Office which is extremely irritating. The very first thing that any one interested in a patent does is to send to Washington for a copy, and in the case of any real investigation, for what is known as a copy of the file wrapper and contents; that is, a copy of the papers involved in the granting of the patent. There are certain divisions which handle these matters. Their personnel is limited by statute as regards number and salary. The salaries to-day are so meager that the Patent Office is utterly unable to properly man this division so that in every patent matter there are enormous delays in getting even a bare copy of the patent or of the application. This situation calls for immediate relief.

We made mention above of acquiring the complete files of patents relating to the automobile and internal combustion engine. Although we have these patents picked out and ordered every few weeks, we are to-day in some cases as far behind as nine months, even though the Patent Office is doing its best to give us service. We make mention of this not only because it is very harassing, but because it is indicative of the whole situation.

I have enlarged on the above points, not because our particular section of the automobile industry is especially affected, but rather because they are good examples within my personal knowledge of how the general unsatisfactory situation in regard to patents affects a representative industry.

Therefore I earnestly recommend that your committee take favorable action on the proposed legislation.

Respectfully submitted.

NATIONAL AUTOMOBILE CHAMBER OF COMMERCE,  
ROBERT A. BRANNIGAN,  
*Manager of Patent Department.*

I also have a communication transmitting resolutions from Mr. Thomas Howard, executive chairman of the National Institute of Inventors, which will be included at this point.

(The paper referred to follows:)

NATIONAL INSTITUTE OF INVENTORS,  
*New York, July 21, 1919.*

CHAIRMAN OF THE PATENT COMMITTEE,  
*House of Representatives, Washington, D. C.*

SIR: I have the honor to convey to you the sentiments of the National Institute of Inventors in regard to the three bills now affecting the Patent Office.



These are embodied in the three resolutions adopted at the annual meeting; attested copies of which are herewith inclosed.

Assuring you of our esteem, we remain,

Respectfully, yours,

NATIONAL INSTITUTE OF INVENTORS,  
THOMAS HOWARD,  
*Executive Chairman.*

NATIONAL INSTITUTE OF INVENTORS,  
NEW YORK, *July 21, 1919.*

At the annual meeting of the National Institute of Inventors held at the executive offices, 118 Fulton Street, New York City, on June 14, 1919, at 3 p. m., at which time there were represented 2,132 members of the organization, the following resolutions were unanimously adopted:

"Whereas there is now pending before Congress a bill (H. R. 5011) providing for the separation of the Patent Office from the Department of the Interior and its establishment as an independent bureau; and

"Whereas the National Institute of Inventors feel that this separation will act toward the benefit of the inventor and for the public at large; and

"Whereas by this separation the funds received by the Patent Office will and can be used exclusively for its own purposes: Now, therefore, be it

*Resolved*, That the National Institute of Inventors, in convention assembled, at its annual meeting, hereby ratifies and approves the said bill and recommends its adoption; and be it further

*Resolved*, That a copy of this resolution be sent to the Committee on Patents of the Houses of Congress, to the Commissioner of Patents, and to the secretary of the Patent Office Society."

Certified to be correct.

[SEAL.]

W. H. KENNEDY, *Secretary.*

NATIONAL INSTITUTE OF INVENTORS,  
NEW YORK, *July 21, 1919.*

Whereas there is now pending before Congress a bill known as H. R. 5012, providing for a single court of patent appeals; and

Whereas the National Institute of Inventors desire the establishment of such a court in order to shorten the processes of patent litigation and to unify the decisions render in cases: Now, therefore be it

*Resolved*, That the National Institute of Inventors make the following recommendation, to wit: That a court of last resort to pass on patent litigation be established where the validity is questioned and where the question of infringement is at issue; that this court should comprise 12 men, each of whom shall be familiar with patent laws, and one of each of whom shall be an expert and recognized authority in at least one separate science or art, in order that each member can contribute his knowledge to that court when any question involved in his art is brought before it; that this court shall have the right, if an invention is found not to have properly drawn claims, that they shall formulate the claims to protect that invention; and be it further

*Resolved*, That a copy of this resolution be sent to the Committee on Patents of the Houses of Congress, to the Commissioner of Patents, and to the secretary of the Patent Office Society.

Certified to be correct attest.

[SEAL.]

W. H. KENNEDY, *Secretary.*

NATIONAL INSTITUTE OF INVENTORS,  
New York, *July 21, 1919.*

Whereas there is now pending before Congress a bill known as H. R. 6913 providing for the increase in personnel and salaries paid to the Patent Office employees; and

Whereas the Official Gazette shows that on the 14th day of June there was pending in the Patent Office over 16,800 applications awaiting action; and

Whereas it is to the interest of every inventor that the Patent Office be carried on with greater efficiency and that actions on patent applications receive quicker attention; and

Whereas peace conditions will cause a great number of applications to be filed in the Patent Office, which will further congest conditions; and

Whereas the paying of larger salaries will result in procuring a high-grade personnel in the Patent Office: Now, therefore, be it

*Resolved*, That the National Institute of Inventors in convention assembled at its annual meeting hereby ratifies and approves this bill and urge Congress to adopt it; and be it further

*Resolved*, That a copy of this resolution be sent to the Committees on Patents of the Houses of Congress, to the Commissioner of Patents, and to the secretary of the Patent Office Society.

Certified to be correct attest.

[SEAL.]

W. H. KENNEDY, *Secretary*.

Also a statement from Mr. Bert Russell, of the Patent Office Society, which will be included at this point.

(The paper referred to follows:)

PATENT OFFICE, July 24, 1919.

Hon. JOHN I. NOLAN,

*Chairman House Committee on Patents, Washington, D. C.*

DEAR MR. NOLAN: Herewith please find a completion of my remarks before your committee.

I have not been forgetful of your wish to avoid overburdening the record of the hearings, for which you made such liberal provision, and if any portion of what I have incorporated shall appear undeserving of space, I shall be glad to have you eliminate as much as may to you seem best.

If and whenever this may be practicable, we should be very glad indeed to have a few words that we may publish in connection with your name as to the prospect of an early report on H. R. 5011, H. R. 5012, or H. R. 7010—or all three.

Very respectfully,

BERT RUSSELL.

CONTINUATION OF THE REMARKS OF BERT RUSSELL, SUBMITTED TO PATENTS COMMITTEE OF THE HOUSE OF REPRESENTATIVES, JULY 18, 1919.

In passing it is respectfully suggested that if the motive or intended utility of measures is properly to be emphasized in their titles, then H. R. 5012 might advantageously be reentitled "A bill for the relief of the calendars of the district and circuit courts and for the unification of the patent system by the establishment of a court of patent appeals"; also that the tendency and purpose of H. R. 5011 might be better indicated if it were entitled "A bill to enhance the authority of the Commissioner of Patents, to authorize the recovery of general damages for infringement of patents, and for other purposes."

The meat of 5011, however, seems to me to lie by no means entirely in the provisions by which it will better localize authority and discretion in patent matters, nor entirely in the improvement of financial relationships (in connection with which I should like to state my impression that inventors generally will not now object to a moderate increase in fees—for better service), nor yet entirely in the fact that under its more elastic provisions the force and salaries allowed to the office may be changed from year to year by successive acts of appropriation. The proposed independence of the office of commissioner, rendering its opportunities and responsibilities more attractive to such strong men as the situation clearly demands, is deemed to lay a foundation adequate and indispensable to important developments of which these bills do contain little or no intimation—perhaps for the reason that no man in a position to speak with authority has formulated a very clear conception of them. It is, however, felt that some of these larger possibilities may properly be suggested by such questions as the following:

Whenever the Patent Office shall be organized, manned, and equipped suitably to a prompt and reliable determination of questions of novelty, utility, and invention, will not the equipment so provided be incidentally suitable to numerous, varied, and important uses for which no adequate provision is now made?

Should not the office be so organized as to reveal for the scientist the conditions, character, and reliability of the steps by which typical advances have

been made, while also offering to the engineer or the artisan a catalogue of all the alternative means by which any specified result has heretofore been attained? And should it not also afford to manufacturers and the general public a wealth of reliable suggestions for the equipment of plants to meet every purpose and condition?

In short, must not the office be as rapidly as possible transformed from a fountain of litigation, misinformation, and disappointment into a storehouse of complete and substantial information, in orderly arrangement—the most encyclopedic and typical institution of this western world? (From the point of view last indicated I, for one, would much prefer to see it rechristened broadly as an “office of patents and technical information,” rather than merely “patent and trade-mark office,” as proposed in H. R. 5011.)

It is, of course, from the executive branch of the Government and from the congressional charter of the National Academy of Sciences that the National Research Council derives its present status. Note may be made of the fact that a majority of the members of the patent committee which has been permitted to advocate these bills are not lawyers, but scientific men or engineers. Dr. Durand, Dr. Baekeland, Dr. Stratton, Dr. Millikan, Dr. Hunt, and Dr. Pupin have been listed as members of the National Research Council and its patent committee. During the prosecution of the war it would appear not unnatural that these practical scientific men should be very largely preoccupied with those technical problems whose timely solution contributed—even more than is generally realized—to the early and complete victory of the “allied and associated” arms, and, accordingly, not unnatural that the present initial measures are largely of legal and preliminary character—difficult matters of improved organization and equipment being left very largely to the future or to the unknown present resources of this committee. It is, however, felt safe to assume that upon the passage of any measure or measures carrying the essential features of the present bills there will promptly follow, as if in consequence of the encouragement so given, any desired additional studies and suggestions from the National Research Council or its patent committee—such additional suggestions as may help to transfer the center of gravity in matters of education and science, along with the centers of gravity in matters of finance and diplomacy, from the Old World to the New.

To illustrate the present situation as to the informative resources of the Patent Office, and with reference only to a few matters chemical, attention may be called to the fact that one in quest of full information as to a metallurgical fact or problem must now leave the Patent Office and consult the men and volumes at the Bureau of Standards. To get comprehensive information as to dyestuffs, he must visit the color laboratory of the Department of Agriculture. To learn of explosives he would need access to the Ordnance Department. To learn of methods of making gasoline by the cracking of heavier oils, he should consult the Bureau of Mines. Perhaps because its work has not been so directly constructive as to make a like appeal to the imagination—and perhaps because its work has not been so well done—the Patent Office now has nothing to compare, in the way of complete modern information, with these more recent establishments mentioned by way of example. And without complete informative equipment it can not possibly perform its own proper work. Not only does it more and more tend to fail of aiding the “progress of science and the useful arts,” but, by reason of errors unavoidable under existing conditions of organization, equipment, and policy, it is understood to come more and more of an actual menace to scientific and industrial advance.

Conceivably, an altered policy may at any time greatly change the number of patent applications allowed—tending thereby indirectly to reduce the number of applications filed and also the number of men required for the work of examination. It is, indeed, understood that manufacturers now often apply for patents primarily because they are unwilling to run the risk that somebody else, applying independently and unknown to them, may otherwise deprive them, along with the general public, of the use of an idea upon which they personally would gladly forego any monopoly whatever. For mere self-protection against unwarranted grants to others, numerous concerns are said to incur the expense of creating and maintaining expensive “patent departments.” But even if the filing of patent applications should be very materially reduced by (1) cutting off “shyster” practice; (2) by the improvement of Patent Office searches; (3) by the adoption of higher standards of patentability; (4) by the publication of bibliographies that would seasonably disillusion many amateurs, guiding their efforts into proper fields; and perhaps (5) by some provision for a kind of universal protection by mere publication, there would



still appear to remain the great problem of collecting, organizing, and presenting, for all proper uses, the ever-increasing volume of scientific and technical information. Nothing less than the solution of this very comprehensive problem would seem to offer a prospect of really enabling the office to do properly the work for which it exists, or American science and industry to make the most of the unparalleled opportunities but lately created or revealed.

It is not felt that, because the present measures may be regarded as merely preliminary, any one of them can safely or wisely be deferred. They seem mutually supplementary and indispensable as a foundation to further advances that should be attempted at the earliest possible date. On the other hand, the possibility of their improvement as a result of detailed study by this committee is undoubted, although the importance of an early report is indeed very obvious.

In conclusion, I beg to incorporate a portion of a report submitted to the Patent Office Society by its affiliations committee; also a letter from former Examiner E. C. Tuller, an electrical engineer, who recently resigned, with evident reluctance, from the examining corps; and a clipping from this morning's Washington Post, this latter indicating certain views of Mr. Henry Ford, accordant with representations herein.

Very respectfully,

BERT RUSSELL.

JULY 23, 1919.

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TESTIMONY OF HENRY FORD.

[Washington Post, July 23, 1919.]

The manufacturer's opposition to patents was explained as follows:

"I was in litigation over the Selden automobile patents for seven years, and eventually saved the industry from being monopolized," said the witness.

"Have you and the Ford Motor Co. a good many patents?" asked Attorney Lucking.

"We have taken a good many."

"Have you ever tried to enforce a patent against anybody or tried to prevent them from using any of your ideas?"

"I think not."

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PORTION OF A REPORT TO THE PATENT OFFICE SOCIETY BY ITS AFFILIATIONS COMMITTEE.

Your committee further submits that while we believe that the facts presented by the National Research Council committee along with the bill are sufficiently convincing to warrant the belief that all persons really interested in the patent system will agree that by the establishment of the Patent Office as a separate institution, the industrial interests of the Nation will be best subserved, we beg to submit by way of supplement the following additional facts as reasons for the support of that portion of the bill under consideration:

(1) The Patent Office is charged under the Constitution with the duty of promoting industrial progress and security by making inventors secure and exclusive in their rights, and it is obvious that unless the Patent Office be established as an independent institution, with the right of self-determination and freedom to grow, expand and develop into the fullness of modern industrial requirements, it can not perform its broad and industrially essential constitutionally required functions.

(2) The Patent Office is charged by the plain terms of the statute (4886) to make examinations and investigations as to all matters made conditions precedent to the patent grant, and to thereby grant only essentially valid patents, and it is clear that without the status of an independent, enlarged, modernized, industriously efficient institution, this office can not fully and fairly make such examinations and investigations as will comply with statutory requirements.

(3) The industrial business of the Nation to-day is being reconstructed upon larger and more important lines, our industrial institutions are being readjusted to assume a world wide character and function, they are being made strong and free upon the seas in order that they may assume the proportions of world powers in business—necessarily, therefore, an institution such as the Patent Office, which is charged with the duty of providing safe and sound titles to industrial property, should be made free and efficient in order that it may

perform its required functions in furnishing secure foundations for these larger and more important industrial developments and enterprises.

(4) This independent industrial institution, if established and conducted as it should be, would provide ample means to permit examiners to become familiar with existing industries, it being as essential under the law to the proper conduct of the work of examination by examiners that they have full knowledge of information accessible to the public in factories and industrial laboratories as it is essential that they should have full knowledge of arts as published in patents and publications, it being also of importance that knowledge of industries and published disclosures of prior arts should be made to take distinct precedence over mere matters of office procedure and legal technicality in the greater and more important work of the proposed independent institution.

(5) Included in the Interior Department are 10 or more bureaus, at least 7 of which are vitally concerned with the public lands. Proper administration of these bureaus exhausts all the energies and interests of my secretary, however versatile and talented he may be. So far as known, no Secretary of the Interior has ever been chosen because of his interest in the promotion of progress of the useful arts or because of his knowledge of the industrial problems arising in the Patent Office, nor is it likely that one ever will be. Thus the Patent Office, which should be in the very forefront of progress, has always been without an independent progressive mouthpiece, with the inevitable result that it has always been stunted in every department. Even its clerical force is expected to perform its services on salaries ranging from 10 to 50 per cent less than are paid for similar services in other departments, and the examining corps is impeded by lack of facilities and from confusion arising from constant changes in its personnel. Of course, these difficulties will not disappear instantaneously and automatically with the independence of the Patent Office, but they will never disappear without an interested, independent, spokesman thoroughly alive to and conversant with the needs of this office and whose entire time can be given to its improvement and upbuilding.

(6) It appears that whenever other dependent bureaus or sections of departments have become separate and independent institutions, the work in those independent institutions has developed in usefulness and efficiency in the public interest, attention being called to the development of the Department of Agriculture from a section of the Patent Office; the development of the Interstate Commerce Commission as a separate institution; the development of the Department of Labor from the Labor Bureau; separation of the Department of Labor from the Department of Commerce and Labor, and the establishment of the Department of Commerce as a separate department.

(7) In Great Britain and even in Germany the patent offices are independent institutions, unwarped and unhampered by obstructive surrounding conditions, and our own Patent Office should likewise be independent and unhampered, in order that it may develop to meet industrial requirements and to assist in making our industries strong and secure in the international industrial contests which even now are demanding the attention of our foremost industrial experts.

(8) It has been suggested that approval of the proposed bill may be accorded, provided the Patent Office may not become a bureau of the Department of Commerce. However, a majority of your committee are of the opinion that, in view of the fact that the original work of inventors, under the patent system, underlies and has made possible not only the establishment of every other governmental, corporate, and private industrial enterprise, the Patent Office should not only become an independent institution, but that in time it should become the Nation's most important industrial department, efficiently engaged in promoting general industrial progress and stability, by encouraging inventors to originate new or improved forms of industrial property and by making inventors, manufacturers, and capitalists secure in their industrial rights in letters patent.

L. D. Underwood, law examiner; W. J. Brumbough, principal examiner division 14; M. D. Farmer, assistant examiner division 23; A. H. Giles, principal examiner division 45; Maxwell James, assistant examiner division 7; C. H. Lane, principal examiner division 43; O. I. Levy, assistant examiner division 25; Frank A. Richmond, assistant examiner division 12; Sidney F. Smith, principal examiner division 35; Percy C. Smith, assistant examiner division 16; James H. Lightfoot, principal examiner division 25, chairman.

GENERAL ELECTRIC CO., PATENT DEPARTMENT,

*Schenectady, N. Y., July 21, 1919.*

MR. BERT RUSSELL,

*Secretary Patent Office Society, Washington, D. C.*

MY DEAR RUSSELL: In response to your request for data as to why men leave the Patent Office and as to whether increases in salaries and improvement in conditions would have an appreciable effect in retaining experienced men, I submit the following with reference to my own case. As you know, I resigned my position as principal examiner in the Patent Office on the 10th instant and entered the patent department of the General Electric Co. at Schenectady, N. Y., on that date as an assistant attorney. My service in the Patent Office comprised some 14 years. I was made a principal examiner at \$2,700 in October, 1917.

I am 39 years old and very likely would have remained in the Patent Office had the salary of a principal examiner approximated that paid in patent work outside the Patent Office. As is the case with many others in the Patent Office, I liked Washington and desired to live there. There are some men, of course, who are determined to make a lot of money and whom no salary would retain in the Patent Office longer than necessary to acquire the training the Patent Office affords. These men are, however, comparatively few. The ordinary man is satisfied with a fair compensation which will enable him to live comfortably, educate his children properly, and lay something up for old age. This is particularly true of the man doing the character of work the Patent Office does or is supposed to do. The work necessitates a thorough familiarity with patent law and patent practice, and very many of the classes of invention are of a technical character. Given an opportunity to do his work thoroughly, the examiner becomes a technical expert and takes a great deal of pride in keeping abreast of the art he is handling. He is brought into touch with the leading technical authorities all over the world in his line of work. The judicial character of the work also appeals to most men.

It is my opinion that primary examiners should be paid much more than \$4,000, provided in H. R. 6913, and that it would be the very greatest economy on the part of the Government to pay a salary much higher than that. It is also my opinion, however, that to increase the salary from \$2,700 to \$4,000 would produce a very material improvement in conditions in the office. My own experience in talking with parties seeking to take men from the Patent Office has been that the difference between \$3,600 and \$4,000 is a very material one.

While I made no effort to leave the Patent Office, I nevertheless while there received many offers of outside positions. During my services as a principal examiner at \$2,700 I received an offer of less than \$3,600 in but one instance. A man's earning power during the first year out of the Patent Office is not ordinarily sufficient to warrant a firm paying an initial salary of \$4,000, together with the additional overhead. The inducement of a raise in salary at the end of the first year is, however, customarily held out.

Under the salary scale of the present year a principal examiner receives \$2,740 a year, while a first assistant examiner receives \$2,640, a difference of less than 28 cents a day. This salary scale not only offers no incentive for a first assistant examiner to remain in the office but in addition it makes a principal examiner feel that his services are not properly appreciated. As the office is at present organized the amount of responsibility assumed by and the executive ability required of a first assistant examiner are not comparable to that of a principal examiner. They should be equally well qualified technically, legally, and temperamentally, and thus no man should be a first assistant examiner who is not qualified to be a principal examiner, but for the reasons indicated a man's compensation should be increased very materially when he is made a principal examiner and placed in charge of a division.

The administration of the patent system will be very seriously crippled, if not absolutely ruined, unless the present salary scale of the Patent Office is at once revised. It is necessary to increase the salaries throughout the grades, and in making this revision it is absolutely imperative that the greatest increase be made in the higher positions. If this is done it will tend not only to retain competent men in the Patent Office but it will also tend to attract a higher grade of men to the office.

Very truly, yours,

CHAS. E. TULLAR.



Here is a communication from Mr. Edwin J. Prindle, secretary patent committee, National Research Council, transmitting resolutions adopted by the American Institute of Chemical Engineers, which will be included in the record at this point.

(The papers referred to follow:)

LAW OFFICES OF  
PRINDLE, WRIGHT & SMALL,  
New York, July 29, 1919.

HON. JOHN I. NOLAN,  
*Chairman Patent Committee,  
House of Representatives,  
Washington, D. C.*

DEAR MR. NOLAN: I am just in receipt of the inclosed letter quoting resolution adopted at the Boston meeting of the American Institute of Chemical Engineers, approving the report of the patent committee of the National Research Council and the proposed legislation. I would like, if possible, to add this evidence of approval to the record.

Yours, very truly,

EDWIN J. PRINDLE,  
*Secretary Patent Committee, National Research Council.*  
Per M. M., *Secretary.*

OFFICE OF THE SECRETARY POLYTECHNIC INSTITUTE,  
Brooklyn, N. Y., July 25, 1919.

DEAR SIR: The following resolution was adopted at the Boston meeting of the American Institute of Chemical Engineers, on recommendation of the patent committee of the institute, Dr. L. H. Baekeland, chairman. The vote was unanimous for the adoption of the resolution.

"Resolved, That the American Institute of Chemical Engineers favors the enacting of legislation by Congress in line with the report of the national research committee that will increase the efficiency of the Patent Office in the handling of all matters pertaining to inventions and patents, facilitating quick and more thorough research, prompt determination of the rights of inventors, and avoidance of unnecessary litigation in the courts."

Very truly, yours,

J. C. OLSEN, *Secretary.*

MR. EDWIN J. PRINDLE,  
*Secretary Patent Committee, National Research Council, New York.*

I have also a communication in the nature of a résumé from Mr. Frederick P. Fish, of Boston, in relation to the bill providing for the proposed court of patent appeals, which will be included at this point:

(The paper referred to follows:)

FISH, RICHARDSON & NEAVE,  
Boston, July 23, 1919.

HON. JOHN I. NOLAN,  
*Chairman Committee on Patents,  
House of Representatives, Washington, D. C.*

MY DEAR MR. NOLAN: I am informed that some members of your committee are disturbed by the thought that if judges are called up from the districts and circuits to sit in the proposed court of patent appeals, the work of their district and circuit would be demoralized and it might be necessary to appoint new judges in their place.

I am confident that no serious difficulty of this sort could possibly arise.

At the present time all the appeals in patent cases are heard by the nine different circuit courts of appeal. In some of the circuits there are not many patent cases, but a substantial part of the work in the second, third, sixth, seventh, and eighth circuits, at any rate, is in patent litigation, and there are a substantial number of patent cases in the other circuits.

The work of the circuit courts of appeals' judges in patent cases is undoubtedly out of all proportion to the relative number of such cases.

The circuit courts of appeals would, if the proposed act were passed, be relieved of all this appellate work and the judges of those courts would be free to help to a substantial extent in district court work. Many of them do this at the present time, and it would be an excellent thing for them and for the courts if the judges of the circuit courts of appeals would occasionally sit in the district court, as it is a good thing for the district judges to sit, as they frequently do, in the circuit courts of appeals.

In every circuit the district judges are constantly aiding each other by going from one district to another. For example, in the first circuit the district judges of Maine, New Hampshire, and Rhode Island have done a good deal of work in Massachusetts.

In the second circuit there are always judges from the outside sitting in the southern district.

The same thing is true of all the other circuits. Judges are constantly in Chicago from Wisconsin, Indiana, and the southern district of Illinois. I have myself argued before a Utah judge and an Arkansas judge in St. Louis, and last year I argued a Delaware case in Pittsburgh before a Pittsburgh district court judge of the third circuit.

Moreover, it is possible for district court judges to be called from other circuits into a district which needs help. There must have been 20 or 30 district judges from all parts of the country outside the second circuit sitting in New York during the last five years.

This interchange of judges is an excellent thing, not only because it makes it possible for the busy circuits to get the help that they need without the appointment of new judges but also because it is an admirable experience for a judge to go from one region to another where he meets a different bar and comes in contact with a different class of cases.

Taking into account the fact to which I have already referred—that the judges called up from the districts or circuits to the court of patent appeals would do the appellate work which is now being done by those judges in the nine circuit courts of appeal—I am satisfied that there would be no difficulty whatever in any district or circuit in handling the business of that district or circuit during the six years' absence of any of the judges who had been called to the court of patent appeals.

The Chief Justice of the United States in designating judges for the court of patent appeals would undoubtedly take into account the personality of the different judges throughout the country, their experience and proved capacity in patent causes, and also the condition of the business in the various circuits. A very large majority of the district and circuit judges would be entirely satisfactory as judges on the court of patent appeals, so that the Chief Justice would not be embarrassed in making the court of patent appeals one that is primarily representative not of one section of the country but of the country as a whole.

I think it more than probable that the Chief Justice would for the most part designate for the Court of Patent Appeals judges of the various circuit courts of appeal, and less frequently a district judge. The place of a judge so called to Washington to do work from which his circuit court of appeals is relieved would be taken during his term by one of the district judges without the slightest detriment to the work of his circuit. In at least two and, I think, three of the circuits there are, in any event, four judges of the circuit court of appeals.

I do not believe that there would be the slightest occasion for the appointment of any new judges to take the place of those who were designated for the Court of Patent Appeals merely because of the fact that one judge had been called away from a court for service on the Court of Patent Appeals.

But the work of the Federal courts in many of the circuits is constantly increasing and in any event new judges must occasionally be appointed. If it developed that a new appointment was occasionally necessary, it seems to me that that would clearly be a matter of negligible importance.

The question as to whether or not a judge of the Court of Patent Appeals, upon the expiration of his term, should be reappointed, would be determined, according to the bill, by the Chief Justice in the exercise of his discretion.

While I can imagine that occasionally a judge would make such a record on the Court of Patent Appeals as to encourage the Chief Justice to designate him for a second term, I do not think that this would often happen. I am certain that the Chief Justice would feel as I do, that the great merit of a Court of Patent Appeals made up as provided in the bill would be that it was a shifting

court, constantly bringing up new men with new ideas reflecting the attitude of the circuit from which they come at the time of their appointment.

The judge who had finished his term would return to his circuit or district with none of his judicial qualifications impaired but with a special knowledge of patent cases and of patent law which would enable him to develop in his own circuit the principles established by the Court of Patent Appeals much more effectively because of his personal experience on that court than would be possible if he knew the views of that court only from its recorded opinions.

It would be inevitable, I think, that the judges who returned to the district or circuit from the Court of Patent Appeals would be designated to hear patent cases to a larger extent than their fellow judges in the same circuit, and this consideration would be most important in building up a uniform patent system and in securing as sound decisions as possible in the lower courts, a matter which is of large importance.

I am sure that there is no foundation for the suggestion that when a judge returned to his circuit he would find a judge there doing his work who had been appointed in his absence and whom he would, in effect, displace.

It seems to me clear that the matter would settle itself without difficulty and to the enormous advantage of the community in what would be an ideal appellate system, by means of which a uniform patent law would be established throughout the country.

One effect of a court of patent appeals, if established on the lines provided in the bill, would be, in my opinion, largely to reduce the amount of patent litigation in the country. The law would become much less uncertain. It would be more nearly possible to anticipate what would be the decision of the courts in any given case. There would be less inclination to infringe where there is no good defense and less temptation to bring suits in doubtful cases where the chances of success are not reasonably clear.

I strongly oppose the appointment to the court of patent appeals of new men who do not come up from the districts and circuits.

There is no doubt whatever, in my mind, that exactly as the practice of a specialty, such as patent law, narrows the lawyer and makes him less effective even in his own chosen field of work, so judges who live with patent cases and have no other work would lose the broad, underlying, judicial characteristics that are of prime importance in the consideration of any class of cases.

Some of the best lawyers I ever knew were patent lawyers, but the leaders of the patent bar have always been men who were, primarily, lawyers and only, secondarily, specialists. In the old days such men as Daniel Webster, Rufus Choate, W. H. Seward, and Judge Benjamin R. Curtis were the leaders of the patent bar; but, of course, they were, in the first instance, lawyers of high standing, who were competent in any case. In recent years most of the leaders of those who practiced patent law were men who had been lawyers in general practice and many of them continued to some extent in general practice to the end of their career. This was true of Chauncey Smith, B. F. Thurston, James J. Storrow, and Edmund Wetmore. The same is true of the leading members of the patent bar at the present time, although patent business in the courts has increased to such an extent that when a lawyer gets into that work he is more apt to be absorbed by it than was the case a generation ago.

Many patent lawyers would have made admirable judges for any court in the land, not merely in patent cases but in all classes of work. Their efficiency as judges, however, would have been based upon their possession of the underlying judicial characteristics. In my opinion, the ordinary run of patent lawyers who have done nothing except work in patent causes would not be effective as judges, because they lack the general broad training that is of prime importance.

On the other hand, all of us who practice patent law know of many judges who had no acquaintance with that branch of the law until they were appointed to the Federal bench, but who have made admirable judges in patent cases.

Of all the Federal judges with whom I have come in contact (and there have been many of them), only a negligible number have seemed to me less competent in patent cases than they were in the other branches of litigation with which they had to deal.

I can not help feeling that if men were to be appointed directly to the court of patent appeals without that judicial experience in the circuits for which the pending bill provides, the appointing power should select at least in large part men who were not patent lawyers or otherwise, the bench would fail to attain the high standard that is necessary.



If the bill were to be amended so as to provide for permanent tenure by the judges, I should hope at least that the appointments would be, by the terms of the bill, limited to men who had already served as Federal judges; but even this, in my judgment, would result in a court much less competent and efficient than the court for which the bill now provides.

I am satisfied that the patent bar for the most part agrees with me in the views that I am expressing, and that one reason why it has supported such a bill as that now pending before your committee has been because of the provisions by which the court is not to be made up of men who stay there all their lives, but is to consist, in the first instance, of men who come from the circuits and is constantly to be refreshed by new men also taken from the lower courts.

Very respectfully, yours,

F. P. FISH.

If there is no further business for the committee the committee will stand adjourned until after the recess.

(Whereupon, at 11.10 o'clock a. m., the committee adjourned.)

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HON. JOHN I. NOLAN,  
*Chairman Patent Committee,  
House of Representatives.*

NEW YORK, July 25, 1919.

DEAR MR. NOLAN: I call your attention to the fact that just after page 7 of my typewritten testimony I have introduced a certain resolution of the patent committee of the National Research Council and a letter from that council acting on that resolution (it is in the introductory section). If you prefer, I will introduce these matters by a letter at the foot of the record, although I think the simplest way is to put them in the introductory section with the other papers evidencing approval of the legislation, as I have done.

Yours, respectfully,

EDWIN J. PRINDLE,  
*Secretary Patent Committee National Research Council.*

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HON. JOHN I. NOLAN,  
*Chairman Committee on Patents,  
House of Representatives.*

NEW YORK, July 24, 1919.

DEAR MR. NOLAN: In accordance with the permission given me at the hearings before your committee on the bills proposed by the patent committee of the National Research Council, I desire to add the following to my testimony:

With reference to the qualifications of judges for the proposed court of patent appeals, and, speaking only in my personal capacity, I wish to oppose the impression which I fear might have been given by some of the statements before your committee that the possession of much technical knowledge by a judge would make him less efficient in a patent case. The decision of every case not only involves the law and procedure but the facts, and it is just as important that a judge be able to comprehend the facts as it is that he should be broad and fundamental in his knowledge of the law and judicial in his consideration of the case.

If a judge can not comprehend the facts he can not apply the law to those facts; he can only decide the case by guess. At the end of the trial or argument of a patent case the judge must himself have a comprehension of the facts in the case or else he will be obliged, to a greater or less extent, to guess which expert is most likely to be right. There are, of course, various ways by which a judge may acquire the ability to comprehend the facts in a patent case. Such ability may have come through a technical education or through experience, either on the bench or before the bar. But in any event the judge should have a sufficient knowledge of the fundamental principles of science and technics involved in the case or should have the capacity for using the experts' testimony to inform himself, so that he could thoroughly understand the invention of the patent in suit and the similarities and differences between it and the prior art in order to determine how much of the patent in suit is novel and protected by the claims of the patent, and thus to determine the scope of the patent. He should also be able himself to compare it with what the defendant

has done and thereby determine whether the defendant has infringed the patent. There are quite a number of judges now on the bench who, through long experience in patent cases have reached this position.

It was suggested by a member of your committee that patent lawyers would make suitable judges for the proposed court of patent appeals. It is all a question of whether the patent lawyer possesses not only the technical knowledge, or the facility for acquiring it readily from the experts, but a thorough and fundamental knowledge of the law in general and of procedure and also has a judicial frame of mind. He would have to have a well-grounded knowledge of the fundamental principles of law, not only in order that he may comprehend the spirit back of the usual aspect of the patent law, so as safely to apply it to a given state of facts, but also that he may do so when new and unusual aspects arise, in the deciding of which principles underlying other branches of the law, or the law in general, should be applied. A judge not thus qualified would be likely in deciding a case to overlook some primary principle of law in general which is so fundamental as not even to be mentioned in decisions on cases involving some particular phase of the principle. Patent cases also frequently carry with them incidentally questions of general law and procedure.

There is at least one United States district judge who was a patent lawyer before he was appointed to the bench and who has made a thoroughly satisfactory judge. I am therefore of the opinion that a patent lawyer who has the other qualifications of a Federal judge in general would make a much better judge for the court of patent appeals than one who did not have the capacity for comprehending the scientific and technical facts involved in a case, so as to be able to reach a conclusion by the operation of his own reason.

It is, however, so necessary that the judges of the court of patent appeals should have the qualifications of judges in general that if patent lawyers were to be appointed to that court, I believe that—except, perhaps, for the chief justice—they should reach that court only by way of substantial service as United States district or circuit judges.

I also believe that it would be most beneficial to the court of patent appeals if the judges were only to sit for prescribed terms and then go back to the United States circuit courts of appeals or district courts, at least for a time, because this rotation would prevent the court of patent appeals from becoming narrow and deciding its cases on preconceived notions and not being open to argument or evidence, as is apt to be the case where a court deals all the time with one subject. The rotation of judges would also tend to unify the views and increase the efficiency of the district courts throughout the United States.

With regard to the proposed separation of the Patent Office from the Interior Department: The Work of the Patent Office is both legal and scientific, while that of the other bureaus of the Interior Department is strictly neither of these. The Patent Office therefore does not touch the Interior Department in either aspect of its work. It would be much more logical if the Patent Office were under the Attorney General, for he would at least be able to judge of its needs as a law office. I am, however, firmly of the opinion that the Patent Office should be independent of every other department, because this combination of science and law constitutes a unity, so to speak, which could not be administered to the best advantage under a superior to the Commissioner of Patents, who was out of touch with either aspect of its work.

I also beg to introduce a clipping which appeared in the newspapers of July 19 and 20. The one introduced was taken from the New York Times of July 20. It gives the views of Marshal Foch as to the vital importance of inventors to the allied Governments:

“FOCH EXPECTS WAR AGAIN—TELLS DAILY MAIL ENGLAND WILL NOT BE READY FOR IT.

“LONDON, *July 19.*—‘The next time England will be in the same position as the last time—she will not be ready and we will have to wait for her,’ is a statement made by Marshal Foch, of France, to a correspondent of the Daily Mail, which prints an interview with the commander in chief of the allied armies this morning.

“Marshal Foch, in the course of the interview, however, pays the highest tribute to the British Army, saying:

“‘The military history of the world contains no parallel to the production of such an army in such a way. In every respect the British Army has been superb.’

"The marshal insists that Great Britain should maintain large reserves of military material, saying:

"That is one of the obvious and indispensable precautions to be taken.

"Look at the out-of-date equipment with which we started this war,' the marshal is quoted as saying. 'The next war will be more than ever one of machinery. You should have laboratories with inventors always at work keeping you abreast of the mechanical side of war.'"

It will be noted that he said to the British Government:

"Look at the out-of-date equipment with which we started this war. The next war will be more than ever one of machinery. You should have laboratories with inventors always at work keeping you abreast of the mechanical side of war."

Here, then, we have the highest authority on war stating, in effect, that the making of inventions is of supreme importance to the safety of the Allies and urging that inventors be kept always at work. How, then, can we fail to provide for means to enable the Patent Office to work efficiently and for a sure recompense and for low cost in time and money in enforcing that recompense, when necessary, so that our inventors may find it sufficiently worth while to spend the time and money that are required to make inventions.

Very respectfully,

EDWIN J. PRINDLE.

NEW YORK, July 25, 1919.

HON. JOHN I. NOLAN,  
*Chairman Patent Committee,  
House of Representatives.*

MY DEAR MR. NOLAN: I beg to inclose herewith the following letters to form a part of the printed record of the hearings before your committee on the bills proposed by the patent committee of the National Research Council.

(1) Letter from Thomas Ewing, Esq., dated July 17, 1919.

(2) Letter from Mr. Albert G. Davis, attorney in charge of the patent department of the General Electric Co., and letter accompanying same, both dated July 11, 1919.

Yours, very truly,

EDWIN J. PRINDLE,

*Chairman Patent Committee, National Research Council.*

NEW YORK, July 17, 1919.

HON. JOHN I. NOLAN,  
*Chairman Patent Committee,  
House of Representatives.*

DEAR SIR: Pursuant to the permission given me to answer your questions by letter, I submit and append to my testimony the following:

As to the composition of the court of appeals: I feel confident that few patent attorneys wish to see a court made up of specialists in patent cases. The consensus of opinion is that the judges making up the court should have shown their capability in handling such cases in the course of their judicial careers rather than in the course of their professional careers.

This point might be met by providing that all or a certain number of places on the court of patent appeals should be filled by appointments from the district and circuit bench.

Two advantages will flow from the scheme proposed in the bill, viz, that as a general rule the judges will not sit on the court of patent appeals long enough to get out of touch and sympathy with the large movements in the administration of the law throughout the country. And, secondly, that those judges who, having sat on the court of appeals, return to their circuits or districts will be able to dispose of the patent cases nisi prius with heightened ability owing to their training.

The objection urged by the chairman is that under section 968 of the Judicial Code every district judge must reside in the district for which he is appointed. It is pointed out that there is only one district judge in most of the districts and that were he appointed to the court of patent appeals it would be necessary to appoint another district judge to fill the vacancy. Upon his return there would thus be a duplication of judges, which is perhaps unnecessary.

Omitting in each instance the member of the Supreme Court of the United States who is also a circuit judge, but unable to devote much attention to the



business on circuit, there are three circuit judges for each circuit, excepting the second and ninth, where there are four, and the seventh and eighth, where there are five each.

There are thus 33 circuit judges from among whom probably the members of the court of patent appeals would be largely taken. Their places on the circuit courts of appeals, in so far as it might be necessary, could, under the law, be filled by district judges who now frequently sit to hear appeals.

There are 13 districts in which there are 2 district judges each, and one, the southern district of New York, in which there are 4 district judges. As there are 82 districts in all, this means that there is an additional judge in one-sixth of the districts. It also means that in addition to the 33 circuit judges there are 30 district judges scattered quite widely over the country, from among whom members of the court could be chosen and not leave any district without at least 1 resident judge.

In so far as the work of the trial courts is concerned, the proposed plan would not diminish the amount of business and, therefore, here and there a new judge might necessarily be appointed. In so far as the work of the circuit courts is concerned, the relief from patent appeals would in large measure compensate for the loss of the judge, whose place, moreover, could be filled by the assignment of a district judge from time to time.

I feel confident that the freedom of assignment of judges from one district to another in the same circuit and from one circuit to another where special accumulation of business has occurred, a scheme which works very well in practice, relieves the proposed plan of any serious objection.

The bill in question, excepting as to the number of judges and elimination of references to the circuit courts now abolished, was drafted by a committee of the American Bar Association after the whole subject had been given careful study. It therefore seems to me that it should not be modified radically.

The Patent Office as a separate bureau: The suggestion that the Patent Office be separated from the Interior Department is purely one of expediency. My experience led me to the conclusion that the connection did not benefit the office, and in a serious way handicapped it.

I defer to the more enlightened judgment of the committee as to whether the situation would be improved by the change suggested. I have no experience with the United States Health Service, and therefore can not answer the suggestion of the chairman that it has not prospered as a separate institution.

As I have indicated in my statement, the main difficulty is that the demands of the office are compared by the Secretary with the equally vociferous demands from other bureaus.

The Patent Office is a unique institution. It has not the political significance of the Land Office or the Pension Office. No one ever heard of any excitement in any part of the country over who should be appointed Commissioner of Patents.

Nor has the work of the office the popular appeal of the Indian affairs or of national parks or the definite body of workers such as are interested in the Bureau of Education. It is a quasi scientific office, more analogous to the Geological Survey, the Reclamation Service, and the Bureau of Mines.

I would not minimize the importance of any bureau of the department, but I believe that the work of the Patent Office exceeds in public importance the work of all of the other bureaus of the department put together, for it passes upon the mature suggestions of the best minds in the whole world which are directed to the improvement of the practical arts.

Why should the salary of the Assistant Commissioner of Patents be limited to \$3,000 because to give him more would be to make his salary larger than the Assistant Secretary of the Interior, or why should the salary of the Commissioner of Patents be limited to \$5,000 because to give him more would make his salary larger than the First Assistant Secretary of the Interior or the head of the Land Office or any one of the other bureaus.

My belief is that it would be easier to get favorable consideration for the needs of the office in this and other directions if it were a separate bureau.

I also believe that it would increase the dignity of the office to make the commissioner responsible directly to the President and Congress rather than to a Cabinet officer who is not selected with special reference to his fitness for administering the Patent Office and who can never acquire a working knowledge of the operations of the office.

The result of the present condition is that the Patent Office is in a slough from which it must be extricated if our system of grants on examination

is to be continued. I believe that the connection of the office with the Interior Department is largely responsible for its condition and wish to see the proposed separation effected.

In looking over my testimony I find that nothing was said with reference to the bill known as H. R. 7010 about the fact that 150 first assistant and second assistant examiners are called for and only 125 third and fourth assistant examiners. I am therefore taking advantage of the liberty given me to state the reason for this difference.

There is enough work in classification to occupy the attention of one assistant examiner in each division, and it is a very desirable thing that there should be one in each division devoted to classification work. This work of classification can not be done with advantage by an inexperienced man. He should be at least of the rank and experience of a first or second examiner, and the numbers proposed were intended to cover 50 classifiers, divided evenly between the two highest ranks of assistant examiners. If 50 classifiers were taken from the first and second assistant examiners, and there were only 125 of each grade, it would impair the organization of the division for work of examination of applications, as the ideal organization for this purpose is an examiner and eight assistants, two in each grade.

Respectfully,

THOMAS EWING.

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SCHENECTADY, N. Y., *July 11, 1919.*

MR. EDWIN J. PRINDLE,  
*Washington, D. C.*

MY DEAR MR. PRINDLE: I inclose herewith a letter which, if it will help you, I would be glad to have you file with the committee.

Yours, very truly,

ALBERT G. DAVIS

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SCHENECTADY, N. Y., *July 11, 1919.*

MR. EDWIN J. PRINDLE,  
*Washington, D. C.*

MY DEAR MR. PRINDLE: I have no hesitation in advocating the bills which your committee is now advocating before the Committee on Patents of the House of Representatives.

You know of the many complaints which are made, some justly and some unjustly, against the patent system. You know also that in almost every case careful analysis shows that the only remedy which does not promise worse evils than it cures is an improvement in the personnel or working conditions of the examiners and assistant examiners who grant the patents and of the judges who decide on their validity and construction.

The Patent Office is well administered and does excellent work except in so far as it is prevented from doing so by lack of appropriation, and except in so far as it is unable to hold good men because of the inadequate salaries which are paid, particularly in the higher ranks.

I doubt if any persons who are not as familiar with the details of Patent Office work as you and I are realize how great is the power for good or for evil of the youngest and lowest-grade assistant examiner. Such a man may overlook a reference, for example, and grant a patent. It is true that such a patent will be invalid, but it is also true that before its invalidity is established it may cause inconvenience and expense many thousands of times the smaller expense which would have been necessary to find the reference.

This is true even as against a strong manufacturing concern advised by good counsel; it is almost infinitely more serious as against a smaller and weaker concern which is not in the habit of dealing with patent matters.

The abolition of the present system, whereby two courts of appeal in different circuits may differ radically as to the validity or construction of the same patent is much to be desired, has been desired and urged by the patent bar for more than 20 years. The only practical way that has yet been suggested for remedying this great evil is the way which your committee advocates; this is the only way which will command the support and backing of substantially all of those who are most familiar with the situation.

We hear much of the expense of patent litigation and of its uncertainty. It is true that the rights granted by a patent are less definite and more diffi-

cult to ascertain than is ordinarily the case with respect to the rights of a man to have his debts paid or to enjoy the quiet possession of his real estate. This being the case it is probably impossible to arrange matters so that a patent can be enforced with as little delay and expense as it required in the case of evicting, for example, a tenant who does not pay his rent, but certainly it ought to be possible that when a litigant has carried a patent through to a final decision that decision will have the force which it used to have when the Supreme Court was in the direct line of appeal in patent cases.

Obviously every new defendant is entitled to his day in court, is entitled to raise new defenses if he has them and to reargue the old ones. This is inevitable and proper, but at least the patentee ought to be able to go back to the same court which has sustained his patent rather than to go before an entirely new set of judges who know nothing about the situation, and who do not feel bound by the prior decisions, even on the same state of facts and against the same arguments.

The suggestion that the Patent Office should be taken out from the control of the Interior Department is in the right direction; if adopted, it gives the Patent Office a new dignity and a new freedom, which is eminently desirable.

The proposed rule with respect to damages is also in my judgment to be commended. I think that everyone interested in the patent system is anxious to see the patentees' remedies made definite and real in so far as it can be done without causing great injustice to defendants.

I therefore sincerely hope that Congress will see fit to pass the bills which your committee is advocating, and if you think that this letter contains any suggestions which will help the committee in the consideration of these bills I will be glad if you will present it.

Yours, very truly,

ALBERT G. DAVIS.

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MINNEAPOLIS, MINN., July 28, 1919.

MR. JOHN I. NOLAN,

*Chairman Patent Committee, House of Representatives.*

DEAR SIR: As a member of the National Engineering Council on Patent Reform I have been furnished a copy of Mr. Prindle's letter to you of July 21. I am in hearty accord with his statement that if a judge can not understand the facts relative to the art on which the patent is issued he can not apply the law to the actual facts of the case, and the legal facts, mechanical facts, and historical facts are wholly unrelated, and the decision resulting from his misconception is irrational and a menace to progress rather than an encouragement, which is the aim and object of the patent system.

As you know, there has been widespread dissatisfaction with the patent system because, as the Bar Association Committee, of Chicago, reported, "patent litigation is expensive, results uncertain, decisions conflicting, must be admitted." The reason that this unfortunate condition of affairs exists is that while the statute provides that the examiners in chief, who pass on the allowance of a grant, shall possess competent scientific ability and legal knowledge, when the validity of the patent is brought before the courts the requirement for the judge who passes on the validity is legal knowledge only, no requirement as to his knowledge as to the state of the art or scientific ability to understand the art being made. With the rapid progress of the sciences of the industrial arts, the complexity of the questions involved has been increasing by leap and bounds, and the frequency of irrational decisions because of the lack of proper qualification on the part of the courts has been increasing in a corresponding ratio.

My own experience is partially set forth in the appendix of a book on reinforced concrete, which I am sending you under separate cover, in which the antipodal character of legal facts and mechanical fact and historical fact and legal fact has been illustrated in the decisions referred to, and, moreover, the antipodal character of the decisions of the courts lacking scientific knowledge has been contrasted with the decision of the Patent Office experts possessing such knowledge.

The question of importance to the public at large is not whether the individual, like the writer, has been justly or unjustly treated, but whether the system as a whole is broadly of benefit to the public, as it should be, or detrimental to the public on account of its unscientific administration; whether as it now operates it is of benefit only to the legal profession and is a discouragement rather than an incentive to the inventor, thus defeating the intent and object of the system.



There have been submitted three bills in the House. The first provides for the separation of the Patent Office from the Interior Department, so that the money received and made by the Patent Office might be applied more directly toward improving and benefiting the system itself. Another bill provides for the increase in pay of the Patent Office employees, which, while the increases are not commensurate with the technical standing and the work of the men, is a move in the right direction. A third bill provides for the formation of a court of patent appeals, with commensurate salaries for the judges, about 60 per cent higher than that of the average Federal judge.

The thing that appears to me to be lacking is that the qualifications of the judge have not been set forth in this bill. That the judge is merely appointed, instead of required to qualify from the standpoint of scientific ability combined with legal knowledge. Our judges understand the principles of equity. The majority of them, however, are lacking in familiarity with the principles of mechanics, chemistry, and physics, by which the novelty of the principles involved in inventions is to be judged in connection with the history and state of the art, and, moreover, they are unfamiliar with the state of the art which determines novelty and hence are easily misled by false testimony.

I trust that, with other pressing business, you will find time to give this matter consideration, and I am sure that if you do so you will evolve an amendment which properly covers this defect.

The difficulty of finding judges who are scientific men as well as learned lawyers has been discussed at length among various committees appointed to consider the subject of patent reform. My own idea is that a part of the court, at least, should be drawn from the staff of examiners in chief, if they can properly qualify in a rigid examination from the law standpoint, and that the testimony in the patent suit should be heard by one conversant with the art, as is the examiner of the Patent Office. Such provision would render deliberately false testimony regarding the art dangerous to the party offering it and thus automatically eliminate it.

The book sent you may seem like a difficult mathematical discussion, but if you will read Chapters VIII and IX, the difference in principle between the invention on which I was granted a patent and the prior art will, I think, become quite clear, and the discussion of that art in the appendix will be readily understood.

It seems astonishing that two entire courts of appeals should be found so lacking in familiarity with building construction that they could hold that a flat arch is the same in principle as a continuous plate, when an ordinary mason and generally his hod carrier would understand the matter clearly.

Trusting you will find time to give this important matter your customary thorough consideration, I am,

Yours, truly,

C. A. P. TURNER.

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The COMMITTEE ON PATENTS,

*House of Representatives.*

MR. CHAIRMAN AND GENTLEMEN OF THE COMMITTEE: Before presenting for your consideration a statement of facts which, it is submitted, should constitute evidence of the necessity of establishing the Patent Office as a modern industrial institution, independent of the Interior Department or any other department, with the right to grow and develop into the fullness of modern industrial efficiency, it is desired to briefly show the dependent relation of industry to the patent system and the Patent Office, and to assure you that no congressional committee has had a more important industrial question to consider than that which is here presented, going as it does to the very heart of the industrial problems of our nation, which now is at the threshold of probably the greatest industrial revival and international industrial contest that has yet been known.

In the first place it should be understood that industry comprises four essential component factors.

First. Invention, which is the foundation factor, and therefore primarily the most important factor.

Second. Capital, which is an essential vitalizing factor.

Third. The industrial plant or institution.

Fourth. Labor, which equally with capital is vitally concerned with the progress and stability of industrial enterprise, upon which it is dependent for its welfare, support, and betterment.

In explanation of this statement of fact let us consider as an example the telephone industry. (1) The foundation for this industry was the invention in 1876 by Bell of the telephone, and its practicalization by Berliner. (2) Then capital became interested and established the Bell Telephone Co. (3) Then plants for the manufacture and installation of apparatus were established. (4) Then labor, both skilled and unskilled, was given employment and support. The property of this institution is now worth more than a billion and a half dollars; it has provided for many years a good investment for capital; it gives employment to probably 500 000 or more skilled and unskilled laborers and other employees, and like every other invention worthy of the name, it has been of the greatest benefit to the public at large.

It may be stated that as the invention of Bell has been the foundation of the telephone industry, the invention of the chilled plow, the harvester, the reaper, the tractor, etc., has made modern agriculture possible, the invention of the cotton gin has made the immense cotton and textile industry possible, and so there have been and are inventions at the bottom as foundation factors for all lines of industry, and the progress of these industries has been promoted, and will be promoted by other inventions constituting improvements thereon, and capital, labor, and the public will be benefited thereby.

It can not be repeated too often that upon invention, upon the origination of new or improved forms of industrial property, the interests of capital, of labor, of the manufacturer, of the farmer, in fact the interests of the public at large are primarily dependent.

It is apparent, therefore, that it is in the interest of the public that the patent system and the Patent Office, which have constituted the medium through and by which invention was intended to be encouraged and under which inventors were to be given due and certain reward in secure and exclusive rights in industrial property in letters patent, should be made industrially and practically efficient in performing its plainly intended and required functionings.

It is submitted that sound industrial progress and stability can no more be established upon insecure and unexclusive alleged industrial titles to or rights in letters patent than can building structures be firmly built upon foundations of mere sand or safe realty enterprise be founded upon defective titles to land.

In this connection it is of importance to understand clearly that the Constitution of our country (Art. I, sec. 8) has based the promotion of industrial progress and stability upon the secure and exclusive rights that should be granted to inventors for their inventions, and our statutes plainly require that these rights be valid rights in order that they may constitute fair considerations for inventors' disclosures of inventions to the public and for the benefit accruing to the public by the origination of the new form of industrial property as new national industrial assets.

However, although both the Constitution and the statutes require that valid patents be granted to inventors, thus assuring to them secure and exclusive rights to their inventions and discoveries, a fairly large proportion of patents granted are neither valid nor do they grant secure and exclusive rights to inventors, with the result that inventors have been discouraged and injured, manufacturers have sustained irreparable losses and injuries, capital having been frequently victimized has become suspicious of patents as mediums for investment, and the public has been much deceived and victimized.

This obviously injurious industrial condition has existed for the period of 70 years during which the Patent Office has been one of the many bureaus of the Interior Department.

However, it should be understood that Secretaries of the Interior have been by law charged with the supervision of public business relating to patents for inventions, pensions, and bounty lands, the public lands and surveys, the Indians, education, the Geological Survey, the Reclamation Service, the Bureau of Mines, national parks, the Capitol Building and grounds, distribution of appropriations for agricultural and mechanical colleges in the States and Territories, and certain hospitals and eleemosynary institutions in the District of Columbia. By authority of the President, the Secretary of the Interior has general supervision over the work of constructing the Government railroad in the Territory of Alaska. He also exercises certain other powers and duties in relation to the Territories of Alaska and Hawaii.

It is only too plain that with such manifold duties no Secretary of the Interior, able and splendid men as they have been are, could possibly even moderately know the industrial needs of or fairly supervise the policies

and conditions in so complicated and metaphysical a system of legal, scientific, and technical work as that which should be done in the Patent Office.

It is plainly true that the whole time and talents of a man of great ability and of Cabinet caliber, fully imbued with the active and modern spirit of industrial progress and stability, independent and free to act in the interest of industrial efficiency would be needed in directing and controlling the activities of this important industrial institution, and that these important activities can not be effected in the industrial interests within the narrow confines of a small, unequipped Patent Bureau such as that which has existed in the Interior Department for the past 70 years.

In order to show the need of an active, well-equipped modernized institution, fully equipped with men and all facilities for complying with the Constitution and the law, your attention is now called to the following facts:

(1) Although the Patent Office has been under the supervision of the Interior Department for more than 70 years, and although the patent system is primarily an educational system, the people in general and even those engaged in industrial pursuits and of superior education have not been educated to know the true meaning and the great industrial value of the patent system and the Patent Office and the rights and responsibilities of the people in relation thereto, and so far as known, the Interior Department during this time has taken no action to remedy this condition.

(2) During this long period of time inventors and manufacturers have been discouraged and victimized and industry thereby retarded and injured by some of those who have professed to represent them as solicitors and attorneys, and the Interior Department, so far as known, has taken no initiatory action to remedy this injurious condition.

(3) During this long period of time the investing public has been victimized by those who have sold town rights, county rights, etc., in alleged letters patent, and the Interior Department has taken no step to remedy this evil condition or to educate the public as to their rights under the patent system in order that they may not be thus victimized and injured.

(4) During this long period of time, inventors, being uninformed as to the proper course to pursue to preserve their rights in invented things, have lost valuable rights and wasted incalculable values in time, money, and materials because of the want of such information, yet being itself uninformed, the Interior Department has taken no step in the public interest to remedy this condition or to prevent this discouragement and loss.

(5) During the past 70 years the constitutional provision relating to the promotion of industrial progress by making inventor's secure and exclusive in their rights, has still been in active force and effect, yet the Interior Department, not realizing the real meaning and purpose of this controlling provision, has taken no step, so far as known to see to it that the constitutional provision has been carried into practical effect.

(6) The statute (4886) enacted in 1836, under the constitutional provision, has required that before the grant of a patent, the subject matter shall, upon examination, be found to be new, yet established industry has been injured, invention discouraged, and the public deceived by the grant of patents for things not new during the past 70 years, largely because the Interior Department has not had time to consider actual conditions relating to such matters and has not taken any action to remedy this obviously unlawful and injurious condition, by seeking to provide men, means, and all facilities permitting thorough and efficient work that would result in the grant of patents for inventions that are new and upon which as foundations safe and sound industries could be established.

(7) The statute (4886) has provided that before the patent grant is issued, the subject matter must, upon examination, be found to be useful—that is practically operative and harmless—yet, during the past 70 years, so far as known, the Interior Department, being uninformed as to the importance of this matter, has never sought to provide equipment and facilities for the proper determination of this question, the result being that by enforced consideration of this question as a mere abstract proposition, many patents have been issued for merely theoretical and useless ideas, thus preventing the grant of patents to practical inventors for inventions of practical value to industry and to the public.

(8) The statute (4886) has provided that before the patent grant is issued the subject matter must be found, upon examination, to be an invention and not a mere mechanical, chemical, or electrical expedient, yet while the patent office



has been one of the many bureaus of the Interior Department, this department being uninformed of the importance of full and mature consideration of this metaphysical question, has never, so far as known, sought to provide any system, facilities, or equipment for the proper consideration of the same, with the result that many patents have been refused because of the want of proper facilities for the consideration of this question, and many patents granted have been declared invalid and established industry, inventors, and all concerned injured, because of the lack of such facilities and equipment.

(9) The statute (4886) has provided that before the patent grant is issued the alleged invention must not have been known or used by others in this country before the date of the applicant's invention, yet established industry, manufacturers, and capitalists have been greatly injured and their business disturbed and harassed by the grant of patents for things known and used in their industrial institutions before the date of the applicant's invention, and this condition has existed because, contrary to law, no provision has ever been made for the official investigation of this important question before the patent is granted, and so far as known, the Interior Department being obviously uninformed as to these facts, has never sought to make provision for this investigational work as to see that the plain terms of the law were complied with.

(10) The statute (4886) has provided that before the patent is granted it must be that the alleged invention has not been in public use in this country for more than two years prior to the date of the application for patent, yet, established industries have been harassed and injured by the grant of patents for alleged inventions publicly used for many years in their industrial institutions, because, plainly in violation of law, no provision has ever been made for the general official investigation of this important question before the patent is granted, and, so far as known, the Interior Department having no time to ascertain this and all other obviously wrong conditions, has not sought to provide any system or means whereby this provision of the law may be complied with in the interest of established industry and the public.

(11) The statute (4886) has provided that before the patent grant issues it must be determined that the alleged inventor has not abandoned his invention to the public, yet doubtless many patents have been granted to inventors who, not knowing how to protect their rights, have actually lost the right to the same. This condition being due to the fact that, plainly contrary to law, there has never been any general provision or system by which this question could be investigated, and so far as known, the Interior Department with its manifold duties, having no time or occasion to consider this question, has never sought to provide any system or provision for the proper investigation of this question before the patent is granted.

(12) The statute (4893) requires that investigation must be made of the alleged invention presented to determine its patentability, yet owing to existing conditions such statutory investigations have been necessarily, in many cases, superficial, one sided, and incomplete, thus deceiving both the inventor and the public, yet no system has been established for such investigation of alleged inventions from the standpoint of the inventor as well as from the standpoint of the public in order that the interests of inventors, equally with the rights of the public, may be subserved, as plainly contemplated by the statute, and, so far as known, the Interior Department being uninformed of the necessity for such just and fair investigations, has not during the supervisory period of 70 years sought in any way to provide facilities for such important investigations.

(13) The statute (4903) has provided that evidences of the prior arts be cited to applicants for patents in refusing the same, and that such references and also helpful information be furnished in order to assist the applicant in presenting his case so as to obtain fair protection for his invention, and because of the want of such a helpful system much injury has been imposed upon inventors and manufacturers by the grant of patents which have not been operative to fully secure them as to their industrial rights, yet, in so far as known, the Interior Department, not knowing of the importance of such a helpful system of safeguarding the interests of inventors and manufacturers, have not sought to provide facilities for such important constructive work.

(14) The statute (4904) provides that the Commissioner of Patents shall determine the question of prior title as between rival inventors, yet inventors have been discouraged and established industry founded upon patented inventions, has been greatly injured by the grant of overlapping interfering patents

which produce unsettled and complex industrial conditions, because the question of priority had not been fully considered and determined during the pendency of such patent applications, and, so far as known, the Interior Department, being not informed as to the vital importance to established industry that this question should be settled before the grant of the patents and before the establishment of industries thereon, has not sought to provide men, means, or any facilities for the complete and full consideration and settlement of this question before patents have been granted.

(15) For the proper performance of the technical and legal duties incident to the investigation and determination of the problems and questions involved in the lawful work of the examiners of patents, it is essential that such officials be long trained in the metaphysical and judicial consideration of all scientific, technical, and legal questions presented, yet, so far as known, the Interior Department, in view of its necessary consideration of the interests of 14 other activities and having no time to fully appreciate existing conditions under which examiners of patents have to do their industrially important work has not sought to provide means to retain the services of efficient examiners by improving working conditions or seeking to raise grossly inadequate salaries, with the result that it is practically impossible to obtain the services of efficient new examiners or to retain the valuable services of experienced examiners, and the interests of inventors, manufacturers, and capitalists have been accordingly impaired.

(16) It is respectfully submitted that a serious industrial condition exists in the Patent Office, a real condition, rather than an occasion for criticism or reflection, which must be met and remedied if inventors are to be expected to continue to produce new forms of industrial property in the public interest, if capital is to be expected to invest in industrial enterprise, if new or enlarged industrial enterprises are to be established, if labor is to be employed and uplifted and if the public is to be supplied with the ever-increasing demands for comforts and conveniences and for the necessary supplies to promote happiness, health, growth, and individual and national efficiency.

(17) It is respectfully submitted that the serious condition referred to can only be met by enlarging and modernizing the Patent Office by making it free and independent to grow and develop and by providing men, facilities, equipment, and system under efficient direction, in order that the foundations of industrial enterprise, the titles to industrial property, may be made safe and sound, secure and exclusive, as the Constitution and the law require and as actual industrial conditions demand.

(18) It has been stated that this needed industrial reformation may not be effected in the public interest because no provision has been suggested for its self-maintenance and support, and in this connection, it is respectfully submitted that, since the patent system, the Patent Office have constituted the greatest primary governmental medium in producing the industrial wealth of the Nation. The question as to whether the patent system or the Patent Office, if reformed and enlarged, can be made to be self-supporting, should not be considered as a controlling factor. It may be stated in this connection that, if between thirty and forty million of dollars are to be appropriated to maintain the Department of Agriculture (at one time a section of the Patent Office), which is engaged in promoting the agricultural interests alone, certainly between two and three million of dollars may be readily appropriated to maintain the reformed and modernized Patent Office, which will be engaged in promoting all lines of industry, including the agricultural interests, especially since the most part if not all of the enlarged appropriations will be repaid into the Treasury from the resources of the Patent Office.

Respectfully submitted.

J. H. LIGHTFOOT.

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STATEMENT OF JOSEPH R. EDSON, OF WASHINGTON, D. C.

MR. CHAIRMAN AND GENTLEMEN OF THE COMMITTEE: I have heard all of the testimony that has been submitted to you during the several days that this hearing on H. R. 5012 has consumed, except the statements of Mr. Justice Hand and Mr. Justice Manton, and I have been given the privilege of reading their statements as revised by them.

I may state that I have been associated actively with many of those who have been engaged in the preparation of the bill for the establishment of the

court of patent appeals and their efforts to secure the passage of such a bill. I was a member of the standing committee of patent, trade-mark, and copyright law for eight years, during which time a bill, known as the American Bar Association bill, was prepared and reported to the association and was unanimously adopted by it, not only when it was first presented, but at least seven or eight times in as many different years that the committee reported progress to the association and recommended slight amendments to the bill, one of which was to remedy the only objection that Justice E. Henry Lacombe, of New York, made to the bill, namely, that he would like to see it amended so that the chief justice could not compel a judge to sit in said court without his consent. This opinion of Justice Lacombe was reported to the association, and the bill was accordingly amended by inserting the words "must be with his consent," which appear in line 24 of page 3 of H. R. 5012. This amendment appears to meet the objection of some members of the bar that a district judge with a calendar largely in arrears might be designated and thus have to leave his court until some other district judge could be assigned to hold his court.

The bill pending before you is substantially the same as the American Bar Association bill, which has been unanimously adopted by every association, both legal and lay, that has ever considered it with, perhaps, a single exception, in which, however, it was adopted by a large majority.

Following the preparation and adoption of the original bill by the American Bar Association, the bill was considered and adopted by the American Patent Law Association; the Patent Law Association of Chicago; by the New York City Bar Association; the Hon. Rufus Choate and the late Hon. Edmund Wetmore, the latter former president of the American Bar Association and subsequently president of the New York Bar Association; by the Denver Bar Association; by the Los Angeles Bar Association; by the Colorado Bar Association; by the Bar Association of the State of Oregon; by the National Implement and Vehicle Association, through its predecessor the National Association of Agricultural Implement and Vehicle Manufacturers.

The following is a copy of the resolution as adopted by the National Association of Agricultural Implement and Vehicle Manufacturers at its meeting held at Columbus, Ohio, in October, 1908, to wit:

"*Resolved*, That bill known as H. R. 21455, now pending in the Congress of the United States, providing for the establishment of a United States court of patent appeals, is hereby approved by this association; and our members are urged to use every effort to secure the passage thereof."

This bill was presented to said association, referred to its committee on patents, who after considering the same and arguments thereon reported the bill favorably to the executive committee, who, in turn, considered and approved the bill and reported it to the committee on resolutions, who after consideration reported to the association the resolution above quoted, which was unanimously adopted by it. It will be noted that this bill was considered by these various committees at the same meeting at which it was unanimously adopted. The president of the association said that the favor with which this bill had been received and acted upon by the association—that is to say, the passage of a resolution recommending legislation to a legislative body—was unprecedented in said association. The then president of the association was the late Senator Sanders, of Tennessee.

I have given these details merely that your honors may appreciate and understand how favorably a bill to establish a court of patent appeals is received by those upon whom inventors must depend in a large measure for the promotion of their inventions and patents and who necessarily pay the expense of introducing improvements in the industrial arts.

The chairman of the committee on patents, the executive committee, the committee on resolutions, as well as the president of the association, Mr. Sanders, and many other members of the association said that it was the first instance in which a resolution approving or recommending legislation had ever been adopted by said association in less than two years, and that more frequently than otherwise three or four years or longer had been consumed in getting the measure to a vote of the association. When we consider how this measure secured such prompt adoption by a large association representing an important branch of the industries of the country it helps to explain how various other lay associations had adopted the bill providing for the establishment of a court of patent appeals, as shown by the numerous certified resolutions which have been filed before you by Mr. Prindle, representing said associations as secretary.



The resolution of the Colorado Bar Association, heretofore referred to, was adopted on the 22d day of December, 1908:

"*Resolved*, That the committee on law reform of the Colorado Bar Association approves and recommends the passage of the bill introduced by Mr. Overstreet (H. R. 14047), which was under consideration by the Committee on Patents of the House of Representatives of the United States March 18, 1908, to create a United States court of patent appeals, and for other purposes, and now pending before the Committee on the Judiciary of said House of Representatives."

The following are, respectively, the resolutions adopted by the Denver Bar Association and the Los Angeles Bar Association:

Whereas the Denver Bar Association has had before it for consideration a certain bill, recommended by the American Bar Association, in regard to the creation of a court of patent appeals, and the bill submitted being H. R. 14047, entitled "A bill to establish a United States court of patent appeals, and for other purposes"; and

Whereas the judiciary committee of the Denver Bar Association has had before it drafts of said bill and other papers and documents concerning the same, and have unanimously reported in favor of the passage of said bill, or one embodying in substance the principles thereof: Therefore be it

*Resolved*, That the Denver Bar Association hereby favors the establishment of a United States court of patent appeals, and urges that the Congress create the same by proper legislation, in substance as per draft of bill now before the committee of the House.

All of which is respectfully submitted.

HALSTED L. RITTER,  
*President Denver Bar Association.*  
JAMES M. LOMERY,  
*Secretary.*

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LOS ANGELES, CALIF., *December 11, 1908.*

JOSEPH R. EDSON, Esq.,

*Washington Loan & Trust Building, Washington, D. C.*

DEAR SIR: Yours of November 27 is to hand. A meeting of the bar association of this city was held on last Friday, and a resolution approving the bill of the American Bar Association for the creation of a court of patents appeals was unanimously adopted. I will later forward you a copy of the resolution.

Yours, very truly,

J. A. ANDERSON,  
*President Los Angeles Bar Association.*

The American Bar Association bill was unanimously reported to the House after hearings before the committee extending over a period of six years, and also unanimously reported to the House by its Committee on the Judiciary. See Report No. 2145 of the Sixtieth Congress, second session.

I am leaving with the committee a printed copy of hearing before the Committee on the Judiciary of the House of Representatives, Sixtieth Congress, second session, in relation to H. R. 21455, which contains a great deal of important information in reference to the proposition to establish a single court of patent appeals. It contains a copy of the bill, two addresses by Mr. Fish, two by Judge R. S. Taylor, letters from various parties on various subjects germane to the bill, copies of letters from Federal judges who approved the bill, and important data gathered from the nine circuit courts of appeals at the suggestion of a member of your honorable committee showing the number of patent cases heard in each circuit within a given number of years. This table was prepared as a result of a discussion as to whether the court should be constituted of five judges or seven judges. This information was gathered not only for use before the Committee on Patents in the House, the Committee on Patents in the Senate, but also for the Committees on the Judiciary of both House and Senate. In view of the information obtained by an examination of the Federal Reporter and correspondence with the clerks of the circuit courts of appeals, the consensus of opinion was that five judges could handle the cases, at least for a number of years, and accordingly the suggestion by members of the committees of both houses to increase the number of judges to seven was withdrawn.

Up to within the last few days the American Bar Association bill has been approved by every Federal judge from the Chief Justice of the United States down to the last appointed district judge, either orally or in writing, or by his silence in not responding to the call of the committee of said association to give their views upon the bill, copy of which was sent to each justice or judge. Many of the judges responded in writing, and a few of their letters are printed in the hearing as reported in the proceedings before the Committee on the Judiciary in the Sixtieth Congress, hereinbefore referred to. Among the letters received from the judges the following are copied:

UNITED STATES CIRCUIT COURT OF APPEALS,  
SECOND JUDICIAL CIRCUIT,  
*New York City, March 30, 1908.*

JOSEPH R. EDSON, Esq.,  
927 F Street NW., Washington.

MY DEAR SIR: I am heartily in favor of the bill now pending in Congress to establish a separate court for patent causes. They constitute a most important and very special branch of the law, and I am satisfied that suitors would get speedier, more uniform, and more expert decisions than at present from a court composed of Federal judges particularly qualified in the patent law. This will be especially the case if the court is kept fresh and out of ruts by replacing the members from time to time by judges called from the Federal courts of general jurisdiction.

Faithfully, yours,

H. G. WARD.

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UNITED STATES CIRCUIT COURT,  
*New York City, November 27, 1907.*

JOSEPH R. EDSON, Esq.

DEAR SIR: I have read carefully the proposed bill for court of patent appeals and report of committee of American Bar Association. The plan proposed for organization of the new court is, I think, an admirable one. The act does not expressly provide that an unwilling judge need not be forced from his domicile to Washington, but with the entire body of Federal judges (both circuit and district) to choose from it ought to be easy for anyone to divert the lightning should he be threatened with it.

I suppose no one disputes the proposition that such a court taking the place of the nine circuit courts of appeals is a desideratum, and it would be difficult to suggest any better way to constitute it. I do not find any provision for the tenure of the "president judge."

Very truly, yours,

E. HENRY LACOMBE.

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UNITED STATES CIRCUIT COURT,  
*New York City, December 4, 1907.*

JOSEPH R. EDSON, Esq.

MY DEAR MR. EDSON: I wrote you some days ago in reference to the bill providing for patent court of appeal; it was sent to your New York address and probably for that reason has not yet reached you. With so large a body to draw from as the combined circuit and district judges, there could surely be no doubt that an individual who did not wish to leave his home for the Capital could escape designation. I should prefer to have that made certain; but in all other respects I think the bill a good one and the manner of constituting the court the best suggested, save in one respect. It would better conform the court to the original conception of it if there were no redesignation, but two new men came in every three years.

Very truly, yours,

E. HENRY LACOMBE.

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DISTRICT COURT OF THE UNITED STATES,  
SOUTHERN DISTRICT OF NEW YORK,  
*New York City, December 7, 1907.*

JOSEPH R. EDSON, Esq.,  
141 Broadway, New York.

DEAR SIR: I examined the draft of the bill to establish a court of patent appeals and the report of the committee of the American Bar Association, of which you

are a member, recommending it. I am heartily in favor of the bill. I consider it very important to have one court for patent appeals to which all patent cases can be taken. The complications which now arise when there are conflicting decisions upon the same patents by the circuit courts of appeals in different circuits are very great, and the only remedy, in my opinion, is to have one court to which all cases may be appealed. I think, too, that the scheme of having a court made up of a presiding judge selected from the patent bar and of four judges taken from the United States courts is an admirable one and one which would be almost certain to produce a court superior to one in which all five of the judges were nominated from the bar. The judges selected from the circuit and district courts would be almost inevitably judges who had had experience and who had shown ability in the decision of patent cases. I think, too, that the idea of putting men on for a six-year term is a good one. There is a tendency to a certain narrowness of view which sometimes results from having a judge confine his attention to one class of cases for many years. The only evil involved in the scheme seems to me to be the fact that four judges are taken away from the Federal courts. So far as my experience extends, there are none too many judges in any part of the country to do the business, which is constantly increasing. But the filling up of the places made vacant may perhaps be properly attended to by the subsequent action of Congress.

Yours, faithfully,

GEO. C. HOLT.

While in conversation with Justice Lacombe, he told me that in his opinion the establishment of a single court of patent appeals was the most important amendment that could be made to the patent law; that it would promote invention and encourage manufacturers and capitalists to incur the expense of putting improvements on the market by reason of the lessening of litigation in order to secure a final judgment in a patent cause.

It should be remembered, as Judge Manton stated before you, that meritorious patents have to be adjudicated at least once and sometimes two or three or more times. We have reported cases where there have been from 5 to 16 suits based on one patent for its infringement. When we consider that a patent is issued for only 17 years and at least 3 or 4 years are consumed in getting it on the market, and that as many more years frequently pass before pirates spring up and have to be sued, and then several years to secure a judgment, one-half or more of the life of the patent will have expired before the judgment is obtained. If a second or third suit becomes necessary your honors will readily appreciate that they will consume the balance of the term of the patent. Fortunately probably not over 1 per cent of patents become involved in litigation, but owing to the expense and delay which may fall to the lot of any patentee, inventors are discouraged and manufacturers are restrained from promoting the industrial arts and thereby promote the general welfare, notwithstanding the apparently limited risk. Every experienced attorney engaged in patent practice knows that the fear of protracted litigation extending through years, fruitless quests for capital, fruitless expenditures of his own resources, heartbreaking disappointments, and grinding poverty occasionally fill up the short term of the patent.

If this court of patent appeals is established it is estimated that a final judgment that would be in force throughout the United States would often be obtainable in two or three years and perhaps in 18 months. This would certainly promote invention by encouraging inventors, because manufacturers would more frequently buy patents or obtain licenses thereunder inasmuch as the rights of the patentee were protected and a final judgment could be obtained within a time that would leave a substantial portion of the term of a patent remaining.

The fear of oppressive litigation is not of recent origin. As long ago as 1857, Commissioner J. Holt, in making his report to Congress as Commissioner of Patents, on pages 9 and 10, volume 1 of the Patent Office reports for that year, said:

"The Government stands pledged to insure to him (the inventor) the full and peaceful fruition of his monopoly during its continuance; and this pledge constitutes one of the most solemn obligations of law and of honor. \* \* \* The compact ought to be executed by the Government with that scrupulous fidelity which should ever distinguish the strong in dealing with the weak. \* \* \* Again and again have inventors impoverished in fortune and broken in spirit" and demonstrated, "that 14 years which should have been devoted to reaping the harvest of their labors were worse than wasted in harassing and ruinously expensive litigation. \* \* \* It would certainly be practicable



to fix a limit to this oppressive litigation, at least to that feature of it which calls in question the validity of the patent."

With nine circuit courts of appeals making the final patent law in the different circuits of the United States, how much more oppressive must be the litigation of patents than it was in 1857, when we had but one court of final resort in patent cases, i. e., the Supreme Court of the United States.

In an address before the American Bar Association, at its last meeting in Boston, by the then President of the United States, he called attention to the anomalous condition occupied by the owner of a United States patent having a good title in one circuit of the United States to his patent property and no title to his patent property in some other circuit of the United States, and that this was a condition that did not apply to any other species of property, and that therefore a single court of appeals should be established.

In his statement before your honors, Justice Manton said that for the past four years patent appeals had fallen off in his court, and that he had been advised that this is the condition throughout the several circuits, and that therefore, in his opinion, there is not at the present time a growing need for the creation of the court of patent appeals. I was surprised at this statement of Justice Manton, but upon reflection I am inclined to believe that the decrease in the number of appeals is due to the fact that the judgment of on one of the circuit court of appeals settles the rights of the patentee except in that circuit, and that the fear of "oppressive" litigation has had a very material effect upon the owners of patent property by inducing them not to start litigation.

On one occasion in pointing out the advantages in having a single court of patent appeals to one of the ablest patent judges who ever sat on the Federal bench, I was giving credit to the American Bar Association for having originated and diligently prosecuted a bill in favor of establishing this single court of patent appeals; that it was philanthropic, patriotic, and unselfish in lawyers to undertake to limit litigation by reducing the number of suits that might be brought under a single grant, and thereby reducing time and expense in having a patent adjudicated, this judge said I am not so sure that it is unselfish and patriotic. In my opinion, he said, I think the establishing of a single court of patent appeals will greatly encourage inventors and increase the number of applications for patent, and thereby automatically increase the business of the country under patent protection and the controversies that would arise under such increased number of patents.

I note that Mr. Justice Hand has suggested that if Congress is not willing to intrust the Chief Justice with the selection of judges from the district and circuit courts that the bill might be amended by specifying that the designation of judges to hold the circuit court of appeals, exclusive of the chief justice thereof, might be confined to the circuit justices. It seems to me that this might be safely left to the Chief Justice, that is, the selection of the judges to hold the court of patent appeals, that is to say, whether they are to be circuit judges, district judges, or both.

As the committee of the American Bar Association were of the opinion in 1910 that five judges could do all of the work, and as the work of the circuit courts of appeals has apparently not increased, it would be quite safe to amend the bill by providing that the court should consist of five instead of seven justices, especially as it would be several years before the normal business of the country in the litigation of patents would amount to more cases than a court of five justices could handle.

This American Bar Association bill has now reached its majority, having been born in 1898, and has been discussed 21 years before a dozen committees of Congress and many legal and lay associations and always favorably considered and formally adopted by every association which has considered it.

We should have a court of patent appeals as soon as possible. Personally, I am strongly in favor of the bill before your committee, and which is known as the American Bar Association bill. This committee has the power to amend that bill by making it a permanent court or a shifting court.

We look to this Congress to pass a bill which will give us the desired court. It was the consensus of opinion among those who practiced under the provisions of the act of 1836, which provided that patents might be extended for seven years, and under which practice it was necessary to prove the value of the patents to the public, that inventors only get about 2 per cent of the benefits which they confer on the public, the other 98 per cent going to the entire public and reaching, like the sunshine, the just and the unjust.

If we are to preserve this inflow of wealth to the people, we can only do so by conferring at least the 2 per cent to the inventors and those who support them in introducing their inventions in every way that is possible. One way, and the most important way, is to lighten the burdens of litigation.

In closing, I want to quote a paragraph from the report of the Hon. J. Holt, which appears on page 7, volume 1, of the Patent Office Report for the year 1858:

"A class of men who have given to their native land and to the world the cotton gin, the steam engine, the electric telegraph, the reaper, the planing and the sewing machines—inventions whose beneficent influences tell with measureless power upon every pulsation of our domestic, social, and commercial life—may well be pardoned for believing that their wants should not be treated with entire indifference by that body which represents alike the intellect and heart as it does the material interests of the great country of which they are citizens—the Congress of the United States."

In connection with the correspondence we held with the clerks of the circuit courts of appeals of the United States, we were advised that from one-fifth to two-fifths of the time of the judges was consumed in hearing the patent causes and writing the opinions therein.

WASHINGTON, D. C., *August 2, 1919.*



















